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REPORT
OF THE
ROYAL COMMISSION
ON COASTING TRADE

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Canada. Coasting Trade, Royal Commission



REPORT

of the

ROYAL COMMISSION ON COASTING TRADE

December 9, 1957

*Appointed by
Order in Council P.C. 1955-308
of the 1st March 1955*

EDMOND CLOUTIER, C.M.G., O.A., D.S.P.
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OTTAWA, 1958



REPORT

by the

ROYAL COMMISSION ON COASTING TRADE

Presented to the

678738
30.5.52

ROYAL COMMISSION ON COASTING TRADE

COMMISSIONERS

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Ottawa, December 9th, 1957

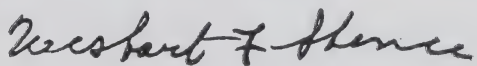
TO HIS EXCELLENCY
THE GOVERNOR GENERAL IN COUNCIL:

MAY IT PLEASE YOUR EXCELLENCY,

We the Commissioners appointed as a Royal Commission
in accordance with the terms of Order in Council P.C.
1955-308 of First of March 1955, upon certain matters
related to the coasting trade of Canada,

BEG TO SUBMIT TO YOUR EXCELLENCY

THIS REPORT



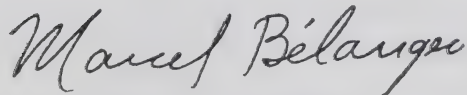
Chairman



Member



Secretary



Member

Acknowledgments

The difficult task which the Commission was called upon to perform would have been well nigh impossible without the most valuable assistance we received from a host of corporations and citizens throughout the nation. One hundred and seventy-three briefs were submitted, many in great detail and reflecting much expert and concentrated research. Over two hundred witnesses in personal testimony expounded these briefs and gave a most impressive volume of expert testimony on every aspect of the inquiry. This most valuable material was basic to our studies and we acknowledge with gratitude the assistance so freely and ably provided.

Moreover we sought assistance from many officials of the Canadian Government and from many citizens both of Canada and of the United Kingdom. Much important and needed information was provided by the members of the Wheat Board and officials of the Department of External Affairs, the Department of Trade and Commerce and the High Commissioners for the United Kingdom and Australia. Mr. Louis Audette, the Chairman of the Canadian Maritime Commission, on many occasions not only provided us with required information in exact and detailed form but assisted the Secretary and the members of the Commission in many discussions where his broad knowledge of the field and long experience proved invaluable. Mr. W. Graham, C.B., M.B.E., Under Secretary of the United Kingdom Ministry of Transport and Civil Aviation, conferred with the Commission and gave much detailed information as to the operation of United Kingdom registered ships in the coasting trade of Canada as well as the United Kingdom's experience under the Transfer Plan.

Mr. R. A. C. Henry gave to the Commission the benefit of his encyclopædic knowledge of the St. Lawrence Seaway and the connecting channels, putting into proper perspective the problems in relation thereto.

Messrs. Milne, Gilmore & German were requested to advise on the general practicability and technical acceptability of vessels described in submissions made to the Commission, particularly on a most relevant and carefully detailed series by the Canada Steamship Lines Limited. This pre-eminent firm of naval architects and marine surveyors made its report to the Commission. We have accepted it as an authoritative exposition of the various factors dealt with and upon it we based many of our most important calculations.

Our understanding of the practical aspect of ship building was aided enormously by the opportunity given, of which we availed ourselves, to inspect many of the shipbuilding plants throughout Canada and confer with the officials and staffs in those plants.

Royal Commission on Coasting Trade

To all of these persons we are most grateful. Their contributions in their particular fields of endeavor were of the greatest value, their indefatigable industry and outstanding ability most praiseworthy. We are however under a very real obligation to our immediate staff. Small in numbers they have been great in long and cheerful labour. We refrain from mentioning all their names but intend this reference to apply to all whether named or not.

Dr. S. Judek and Mr. George M. Schuthe engaged in specialized research for the Commission as did Mrs. A. F. W. Plumptre and Miss Anne Shaw.

Mr. David W. Mundell, Q.C., and Mr. Paul Gerin-Lajoie acted as counsel for the Commission. As can easily be understood the mere organization of the hearings and the examination of the very many witnesses was, in itself, a major task. In addition to that our Counsel proceeded to elicit from witnesses not only a detailed statement of facts and of their opinions but also broad comments on the problems from those qualified to speak. Further, they engaged in much research into the many problems of law with which our deliberations were concerned. Finally they have been of very valuable assistance to the Commission in assembling and marshalling its views.

Mr. Hubert Kemp was loaned to us by the Department of Trade and Commerce as Economic Adviser and continued to perform that duty until he was required to go overseas upon his appointment as Economic Research Consultant to the Government of Ceylon. His ability in research seemed to know no bounds and the stream of information he supplied was constant, voluminous and relevant.

Mr. Paul Cimon, our Assistant Secretary, has from the outset handled all the administrative duties arising in connection with the Commission's work so smoothly we only know by hearsay that the performance of such duties was required.

The basic translation of the report into the French language was done efficiently and expeditiously by the General Translation Division under Mr. Pierre Daviault. Mr. Cimon and Mr. Cyrille Felteau, kindly loaned to us by the Seaway Authority, then undertook the revision of the translation so that it might truly reflect the many technical references both to economics and maritime practice inevitable in such a document. The excellence of the translation is due to their skill and meticulous devotion.

Mr. G. Gordon McLeod was loaned to this Commission by the Department of Transport to act as its Secretary. We had not been concerned with our duties for more than a few days before we realized how fortunate we were. From that day to this Mr. McLeod has performed a task which merely from the point of hard unceasing labour has been unequalled. Moreover he has done so with such penetrating intellect and with such critical and analytical ability that we can only characterize his contribution to this Commission's work as brilliant.

Acknowledgments

The drafting of our report itself was a matter of considerable difficulty and in that task we received the invaluable assistance of both Mr. Mundell and Mr. Gerin-Lajoie as well as the constant day-to-day cooperation and counsel of Mr. McLeod. We welcome our opportunity to express our gratitude to the staff who have rendered such yeoman service.

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CHAPTER I

Introduction

1. Terms of Reference

Under the terms of reference (Commission of Appointment and Order in Council, printed in full as Appendix I to this report), the Royal Commission is required —

“to inquire into and report upon all questions within the jurisdiction of Parliament, including questions with respect to Part XIII of the Canada Shipping Act, Coasting Trade of Canada, arising out of the transportation by water, or by land and water, of goods and passengers from one place in Canada to another place in Canada, including the Great Lakes, and upon relevant matters which may in the course of the inquiry arise or develop and which, in the opinion of the Commissioners, should be included within the scope of the inquiry and report and, without restricting the generality of the foregoing, the Commissioners shall inquire into and report upon the following matters:

- (a) the relationship of the coasting trade of Canada, including the Great Lakes, to Canadian shipping and ship building, and the effect on such shipping and ship building of the participation in the coasting trade of Canada, including the Great Lakes, of ships or other marine craft registered or built outside of Canada;
- (b) the probable effects of the development of the St. Lawrence Seaway upon the coasting trade of Canada, including the Great Lakes;
- (c) the relationship of the coasting trade of Canada, including the Great Lakes, to the domestic and international trade of Canada and to Canada's external relations; and the effect of the participation in the coasting trade of Canada, including the Great Lakes, by ships or other marine craft registered or built outside of Canada upon the domestic and international trade of Canada and Canada's external relations; and
- (d) the necessity, if any, of establishing different policies and prescribing special conditions with respect to the coasting trade of Canada, including the Great Lakes, applicable to particular parts of Canada.”

An examination of the terms of reference discloses that the coasting trade of Canada should be considered to include the transportation by water, or by land and water, of goods and passengers from one place in Canada to another place in Canada, either directly or by way of a foreign port. It may be noted

that such a definition corresponds to the wording used in the Canada Shipping Act.¹

The coasting trade of Canada (cabotage) thus covers transportation on both salt and fresh water, including the Great Lakes, the St. Lawrence River and other inland waterways, as well as the ocean coasts of Canada. It includes shipping between eastern Canadian ports and Canadian ports on the Pacific through the Panama Canal or by any other route, commonly known as intercoastal trade. It also includes the water component of a movement by land and water originating at one Canadian point and terminating at another Canadian point, even if the water movement itself is not between two Canadian ports.

2. Background of the Inquiry

Ever since the Treaty of Paris in 1763, all British ships (for practical purposes all vessels registered in the Commonwealth) have been permitted to engage in the Canadian coasting trade whether registered in Canada or elsewhere in the Commonwealth. A British vessel built in a country outside the Commonwealth, whether registered in Canada or elsewhere, is subject to a duty of 25% *ad valorem* upon engaging in the coasting trade. The preamble to the instrument appointing the Royal Commission states that "representations have been received respecting the coasting trade of Canada." These representations included requests that the coasting trade be restricted to vessels built and registered in Canada, notably in submissions made to the Government by the Canadian Shipbuilding and Ship Repairing Association, whose members include virtually the entire industry, and by the Dominion Marine Association, whose members include almost all the operators of Canadian registered ships on the Great Lakes, both canallers and lakers.

It is an accepted fact that the cost of operating a vessel on Canadian registry is substantially higher than the cost for a similar vessel on other registries, with the significant exception of United States registry, irrespective of how or at what cost the vessel be acquired. Obviously this is a serious handicap in a business as competitive as shipping. Thus the experience of more than two generations has been that it is not profitable to operate Canadian vessels in the deep-sea trades, except in periods when world freight

¹Section 2 provides:

(13) "coasting trade of Canada" includes the carriage by water of goods or passengers from one port or place in Canada to another port or place in Canada.

Section 671 provides:

(1) No goods shall be transported by water or by land and water, from one place in Canada to another place in Canada, either directly or by way of a foreign port, or for any part of the transportation in any ship other than a British ship.
(2) No ship other than a British ship shall transport passengers from one place in Canada to another place in Canada either directly or by way of a foreign port.

rates are comparatively buoyant. The most recent confirmation has been found in the past few years. After the end of the second world war over two hundred publicly owned cargo vessels were sold to private operators with the requirement that they be maintained on Canadian registry. In 1948 a "replacement plan" was announced which permitted the vessels to be sold for transfer to other registries provided the proceeds were placed in escrow for the building of new tonnage for Canadian registry; the hope was expressed that the plan would enable owners to modernize their fleets with faster and more specialized tonnage and thus remain in a position to meet foreign competition. By 1949 ocean freight earnings had so declined that a general lay-up of the vessels was in prospect. The Government approved a one year programme of operating subsidies for a number of vessels and initiated what came to be called the transfer plan, an inter-governmental arrangement under which owners were permitted to transfer their vessels from Canadian to United Kingdom registry. Many owners made the transfer at once, others subsequently. By the end of 1956 only eleven of such war surplus vessels remained on Canadian registry. Five of them formed part of the Canadian National's West Indies fleet, most of the others being employed at least part of the time in the coasting trade.

Canadian registered shipping has been more successful in the coasting trade. The trade is open on equal terms to all British ships, but in practice the competition comes almost entirely from vessels registered in the United Kingdom, which enjoy an operating cost advantage almost as great as in the ocean trades. Moreover, the competition is not limited to that of vessels managed from overseas. Canadian shipping firms can and do make extensive use of United Kingdom vessels, the common practice being to take them on charter for the shipping season or for an agreed number of seasons. Despite these circumstances, Canadian registered vessels carry virtually all the coasting cargo on the West Coast, the Great Lakes, and the St. Lawrence River above Montreal, and about three-quarters of that on the East Coast and lower St. Lawrence. Of the tonnage carried by United Kingdom vessels in the latter waters (in 1955 about ten per cent of Canada's total coasting trade) a major portion consists of coal, iron ore, ilmenite and other bulk cargoes for which the general purpose type of ocean vessel is well suited.

More than a third of the total tonnage of coasting trade is carried on the Great Lakes and St. Lawrence River. The limitations of the present canals have kept out all ocean vessels except the smaller, less efficient and less common ones and hence have precluded any extensive or effective competition from United Kingdom vessels. It was the prospect of the removal of this natural protection by construction of the St. Lawrence Seaway that prompted the Dominion Marine Association to make in 1954 the submission referred to above. Expressing fear of such competition not only in coasting but in

the inland trades between Canada and the United States, the submission stated that “. . . Canadian shipowners would be driven from the inland waters of Canada and the shipyards and ancillary services which sustain them would be without business.”²

Turning to Canadian shipbuilding, its history during the present century has shown that it cannot compete on a cost basis with that of the United Kingdom and other overseas countries. Quebec and Maritime shipyards had flourished on the building of wooden ships for a world market, but market and industry disappeared together with the advent of iron and steel ships. The coasting trade afforded no better market, except within the Great Lakes, since ships built anywhere in the Commonwealth (chiefly in the United Kingdom, in practice) could be acquired or employed without payment of duty. Shipbuilding was revived and reached considerable proportions to meet the demands of the first world war, only to relapse in the early 1920's. During the second world war it was revived again and achieved the phenomenal output of 791 steel vessels, of which 398 were merchant and the others naval. A high world demand for tonnage kept the Canadian yards active on both export and domestic orders for another three years. By 1949 employment in the yards was falling, but the outbreak of hostilities in Korea brought substantial defence orders, which arrested or reversed the trend for the time being. By the time the Royal Commission was appointed the number employed in shipbuilding was once more decreasing and several wartime yards had ceased to exist.

Shipbuilding within the Great Lakes has been an exception in that it has been able to develop on a peacetime basis. The Canadian yards have had a substantial but not a complete natural protection from United Kingdom competition because of the limitations of the St. Lawrence canals, and they have a cost advantage as well as tariff protection against competitors in the United States. The natural protection does not extend to canallers (lake-type vessels capable of passing through the existing St. Lawrence canals), important units in lakes operations. Many canallers have been built in various Canadian yards, especially since the war, but over the years far more have been built in the United Kingdom. With respect to the larger lakers (“upper lakers”) there has been strong competition in the form of over-age United States vessels available at attractive prices. The present Canadian fleet of upper lakers was built up as much or more by such importations as by new construction. This form of competition was brought under control in 1950 by an amendment to the Canada Shipping Act (now Section 22) providing that “a ship built outside of Canada shall not, without the consent of the Minister [of Transport], be registered in Canada”. In 1954, however, construction began on the new St. Lawrence canals, with the

²The same argument was advanced in the Association's brief to this Commission.

prospect that the Canadian shipbuilders on the Great Lakes may expect to face the same United Kingdom competition as those elsewhere in Canada.

As early as 1944 the Canadian Shipbuilding and Ship Repairing Association presented to the Government a brief outlining the fears that the industry had for its survival after the war and making proposals for its preservation. Restriction of the coasting trade to vessels built and registered in Canada was one of the proposals. Parliament did not impose the restriction but it adopted a series of measures to assist the industry when orders began to decline. The association having asked "that Canadian shipbuilding and shipping policies be controlled through one government authority", Parliament in 1947 set up the Canadian Maritime Commission "to consider and recommend to the Minister from time to time such policies and measures as it considers necessary for the operation, maintenance, manning and development of a merchant marine and a shipbuilding and ship repairing industry commensurate with Canadian maritime needs". A plan was adopted of co-ordinating all orders for naval work and allocating them among various yards. Orders for naval vessels at the time of the Korean episode were distributed under this plan. The Canadian Vessel Construction Assistance Act of December 1949 allowed a more rapid rate of depreciation on vessels built or conversions carried out in Canada, thereby encouraging the placing of such orders in Canadian shipyards. The enactment in 1950 of what is now Section 22 of the Canada Shipping Act was referred to above; in practice it has had the effect of restricting the importation of ships over five years old into Canada.

This introductory review has attempted to highlight some of the problems of Canadian shipping and shipbuilding and some of the relationships within the coasting trade. Read in the light of these circumstances, and considering the representations that had been made to the Government, the terms of reference indicate that an important reason for ordering the present inquiry was a desire to have a full and public examination of the various consequences that might be expected to follow upon alternative courses with respect to participation in the coasting trade.

3. The Commission's Inquiry

The Commission was appointed on March 1, 1955. Interested parties were invited to submit briefs, by advertisements in a number of Canadian cities and by direct invitation where possible. The original date fixed for submission of briefs, April 30, 1955, was postponed to June 30, 1955, following requests from interested parties. Briefs were received, however, after that date.

The total number of briefs filed with the Commission was 173. These included representations from shipping and shipbuilding interests (including suppliers of materials and components), provincial governments, municipal

authorities, chambers of commerce and boards of trade, trade associations, labour organizations, major Canadian railways, representatives of the agricultural, mining, fishery, pulp and paper, and other industries dependent to a greater or less extent upon water transportation, as well as a wide variety of other interests. A list of all briefs received will be found in Appendix II to this report.

Public hearings of the Commission were held in Ottawa, provincial capitals or other centres where hearings were requested — 17 places in all. The formal hearings occupied 48 days, and the record fills over 6000 pages of transcript with 257 exhibits, listed in Appendix III. A list of places and dates, together with reference to transcript pages relating to each hearing, will be found in Appendix IV. A complete list of some 200 witnesses and counsel who appeared before the Commission will be found in Appendices V and VI.

During the course of these inquiries the Commission inspected major Canadian shipyards, harbours and port facilities from coast to coast, the St. Lawrence Seaway, and the Welland and Sault Ste. Marie Canals, and conferred with experts available in each locality. Valuable technical assistance was received from many outside sources. A large number of additional technical studies were prepared by the staff.

The terms of reference confine the inquiry of the Commission to questions, within the jurisdiction of Parliament, arising out of the coasting trade and to matters relevant thereto. Water transportation in international trade is excluded except in so far as it may have a bearing on coasting trade. Despite the wide scope of the terms of reference, the events leading up to the appointment of the Commission and the arguments before it establish that the basic study has to do with questions which stem from two factors, namely, the participation in the coasting trade of ships registered or built outside of Canada, and the construction of the St. Lawrence Seaway. The findings of the Commission with respect to these questions are set out in Chapters VI to IX of this report.

The many other questions brought to the attention of the Commission are considered in Chapters X and XI. In a substantial number of cases the matters at issue were technical or administrative rather than involving government policy. The Commission has received and considered the briefs and evidence presented on questions of this kind and has taken the view that it should refer them to the specialized governmental agencies concerned.

CHAPTER II

Present Legislation Affecting Coasting Trade and Shipbuilding

A. Provisions Restricting Coasting Trade

Under Part XIII of the Canada Shipping Act¹ only British ships may engage in the coasting trade of Canada. For practical purposes, British ships are ships registered anywhere in the British Commonwealth of Nations.

The restriction of Canadian coasting trade to British ships has its origin in legislation in the United Kingdom enacted long before Confederation². Until 1849 all trade out of ports in the United Kingdom and out of ports in virtually all British overseas possessions, including the North American colonies, whether international or coasting, was restricted under the Navigation Acts to British ships. In 1849 the Navigation Acts were repealed but at the same time new provisions were enacted restricting coasting trade, between ports in the United Kingdom and between ports in the overseas possessions, to British ships. In 1854 the restriction on coasting trade between ports in the United Kingdom was repealed, but the restriction continued to apply to the coasting trade of the overseas possessions, including Canada, subject to a power to make exemptions by Order in Council at Westminster.

When the British North America Act was passed in 1867 the Parliament of Canada was given authority to legislate in relation to "Navigation and Shipping", but by reason of the Colonial Laws Validity Act, 1865, it could not legislate inconsistently with United Kingdom legislation applying to Canada. The United Kingdom laws restricting the coasting trade of Canada to British ships therefore could not at that time be repealed by the Canadian Parliament.

In 1869 the United Kingdom Parliament amended the law dealing with coasting trade in the overseas possessions. The amendment repealed the existing restriction imposed by the United Kingdom legislation, after one year, and empowered the local legislatures in the overseas possessions, including Canada, to make laws on coasting trade subject to approval by the

¹Revised Statutes of Canada, 1952, Chapter 29, Part XIII, Sections 669-673.

²A chronological list of statutes, both United Kingdom and Canadian, affecting the coasting trade of Canada is set out in Appendix VII. The starting point of this list is the repeal of the Navigation Acts of the United Kingdom, in 1849. It is complete thereafter. The statute relevant to any statement made in this Report may be found by reference to the date.

United Kingdom Government and so long as all British ships were treated equally. In 1869 the Canadian Parliament enacted legislation continuing the restriction of the coasting trade of Canada to British ships.

The status of a "British ship" was acquired throughout this period by registration under the Merchant Shipping Acts of the United Kingdom. Ships owned by British subjects or corporations having their principal place of business in the Crown's possessions, whether in the United Kingdom or elsewhere, were eligible for registration under those Acts. After Confederation, the Canadian Parliament enacted several statutes relating to shipping, including provisions for registration of ships in Canada, which were ultimately consolidated in 1906 in the first Canada Shipping Act. The legal effect of this Act was uncertain owing to possible conflict with the United Kingdom Merchant Shipping Acts of 1894 and thereafter. Consideration of it has now become academic.

No change in principle was made in either United Kingdom or Canadian legislation relevant to the coasting trade until after 1931. The 1926 Imperial Conference had recognized the political autonomy of the Dominions. However, much United Kingdom legislation, and particularly shipping laws, applied to the Dominions. The establishment of complete legal autonomy corresponding to the political autonomy recognized in 1926 contemplated that this United Kingdom legislation cease to apply to the Dominions and that they substitute their own legislation for it. A "Conference on the Operation of Dominion Legislation and Merchant Shipping Legislation" between the Governments of the Dominions and the United Kingdom therefore was convened. This Conference reported in 1929 and, among other things, recommended that an agreement be reached between the Governments in the Commonwealth for the maintenance of uniform shipping legislation.

Pursuant to this recommendation, the Governments of the members of the Commonwealth negotiated and entered into "The British Commonwealth Merchant Shipping Agreement" in 1931. The terms of this Agreement, set out in full in Appendix VIII, establish a uniform basis for registration of ships in all countries of the Commonwealth and a common status for all ships so registered as "British ships". Each member of the Commonwealth may regulate its own coasting trade but undertakes to treat all British ships alike. Each member of the Commonwealth may enact its own customs tariff on ships. The Agreement bound each member for five years from December 10, 1931. Any member may thereafter withdraw from the Agreement or from any article thereof on twelve months notice.

The Statute of Westminster, 1931, of the United Kingdom Parliament, enacted to complete the legal autonomy of the Dominions, authorized the Parliament of Canada to repeal any United Kingdom legislation applicable to Canada. It removed the restrictions on the legislative authority of the

Parliament of Canada to regulate the coasting trade, including the requirement that all British ships be treated equally.

The Parliament of Canada enacted the Canada Shipping Act, 1934, which came into force in 1936, placing the shipping law of Canada on a wholly Canadian legal basis and giving effect to the terms of the Merchant Shipping Agreement of 1931. Part XIII of this Act continued in operation the previous law relating to coasting trade in Canada. This Part³ now provides that "no goods shall be transported by water or by land and water from one place in Canada to another place in Canada either directly or by way of a foreign port, or for any part of the transportation in any ship other than a British ship . . . No ship other than a British ship shall transport passengers from one place in Canada to another in Canada either directly or by way of a foreign port." No ship other than a British ship may tow any ship, vessel or raft from one place in Canada to another place in Canada, except in case of distress. Penalties are provided for infringement of these provisions.

Non-British ships may be exempted by Order in Council declaring that these prohibitions do not apply, for a specified period, either throughout Canada or in any specified waters in Canada, to specified ships or to ships of specified countries. The provision for exemption was first enacted in 1869, but it then authorized the Governor in Council to exempt only ships of foreign countries who extended reciprocal permission to British ships to engage in their coasting trade. The present provision authorizing the Governor in Council to exempt foreign ships generally was enacted in 1923, after a Royal Commission investigating shipping of grain had found that a combine had existed on the Great Lakes in 1922. The purpose at that time was to permit exemption whenever it appeared that reasonable service was not being furnished at reasonable rates. The power to exempt has been used sparingly to meet emergencies.

Before the union of Newfoundland with Canada on April 1, 1949, the coasting trade of Newfoundland was restricted to British ships. At that time transportation between Newfoundland and Canada was not coasting trade of either country and was free to ships of any nationality. Since the union this trade is coasting trade of Canada and is restricted to British ships.

Part XIII also provides that no "foreign-built British ship", that is a British ship built outside the Commonwealth, is entitled to engage or take part in the coasting trade of Canada unless a licence has been obtained for that purpose from the Minister of National Revenue. The Minister is required to issue the licence upon payment of a duty of 25% *ad valorem* on the fair market value of the vessel's hull, machinery, furniture and appurtenances. Since the granting of a licence is mandatory upon payment

³R.S.C., 1952, c. 29, ss. 669-673.

of the duty, this provision although in form regulative is in reality a customs duty of 25% on foreign-built British ships engaging in the coasting trade.⁴ Its effect is considered later in this chapter together with other customs duties on ships and on repairs and equipment on vessels.

Under the Canada Shipping Act, a ship has the status of a "British ship" if two requirements are met: first as to the persons who may own interests in it, and second as to registration.⁵

Only a British subject, or a corporation incorporated under and subject to the laws of some part of "Her Majesty's dominions" and having its principal place of business in one of those dominions, can own an interest in a British ship. As to individuals, for practical purposes all citizens of any country of the Commonwealth are recognized in Canada as "British subjects".⁶ With respect to corporations, a significant point to note is that so long as a corporation is incorporated and has its place of business in "Her Majesty's dominions", it may own a British ship even though its shares are wholly owned by aliens.

The second requirement for a British ship is registration in some part of "Her Majesty's dominions".

The requirement of incorporation and registration in "Her Majesty's dominions" may raise some question with respect to countries of the Commonwealth that have become republics. In this connection no problem relevant to the coasting trade has been drawn to the attention of the Commission.

In laying down these requirements, the Canada Shipping Act gives effect to the British Commonwealth Merchant Shipping Agreement. By the terms of the Agreement the requirements are uniform throughout the Commonwealth countries so that all ships registered in any of these countries have common status as "British ships". Since only ships owned by qualified persons may be so registered, a sufficient test as to whether a ship is a "British ship" is whether or not it is registered in a country of the Commonwealth.

The practical result of Part XIII of the Canada Shipping Act is to restrict the coasting trade of Canada to Commonwealth registered ships, all of which are equally free to engage in it whether registered in Canada or not. A significant point is that this equality of treatment is required by the terms of the British Commonwealth Merchant Shipping Agreement. To exclude British ships registered outside of this country from its coasting trade, Canada would have to withdraw from Article 11 of the Agreement which provides for the equality of treatment.⁷

⁴This duty is also specified in the Customs Tariff, R.S.C., 1952, c. 60, sch. "A", item 440.

⁵Canada Shipping Act, ss. 6-7.

⁶Canadian Citizenship Act, R.S.C., 1952, c. 33, ss. 21-23, and 44. The Canada Shipping Act applies to citizens of the Republic of Ireland who are not British subjects in like manner as it has effect in relation to British subjects.

⁷See Appendix VIII Article 24.

B. Relevant Tariff and Tax Provisions

Vessels wherever built or registered that enter and leave Canada on international voyages are not considered as imported for customs purposes. Vessels built outside of Canada that are regarded as imported are those which engage in the coasting trade or are brought into the country for some other use in Canadian waters, such as fishing, dredging or pleasure. The terms of reference of the Commission do not require consideration of these uses, being other than coasting trade.

Vessels brought to Canada to engage in the coasting trade, if built in a country of the Commonwealth, are free of duty. If "foreign-built", they are subject to duty which is payable in the form of a licence fee of 25% of the fair market value.⁸

Duty is also imposed on repairs and alterations to vessels. Where a ship that engages in the coasting trade of Canada, whether of Canadian or other Commonwealth registry, has been repaired or altered in a country outside the Commonwealth within the year before her entry into the Canadian coasting trade, a duty of 25% is payable on the value of the repairs or alterations. The duty may be remitted where the repairs could not be made in Canada because of emergency or lack of adequate docking facilities.⁹

Normal duty under the Customs Tariff is payable upon equipment purchased for a vessel in a "foreign" country within the year before its entry into the coasting trade and upon expendable stores purchased outside of Canada and brought into Canada aboard a ship that comes to engage in the coasting trade. The duty on stores may be avoided to the extent that they are surplus if they are warehoused while the vessel is in Canada. When the vessel leaves Canada they may then be released without payment of duty.¹⁰

These provisions afford to Canadian shipbuilders protection by tariff against the import of vessels built outside the Commonwealth to engage in the coasting trade, and repairs done and equipment purchased outside the Commonwealth for vessels in the coasting trade. This tariff however is not an effective protection for Canadian shipbuilders as it admits the products of their chief competitors, i.e. those in the United Kingdom, duty free.

Canadian shipbuilders receive certain relief from customs and sales tax. Where duty has been paid on goods or materials that are used in the construction of a ship a drawback of 99% of the duty is permitted.¹¹ Ships licensed to engage in the Canadian coasting trade and materials used in the construction, equipment and repair of ships are exempt from sales tax.¹¹

⁸Canada Shipping Act, ss. 669-670; Customs Tariff, above, sch. "A", item 440.

⁹Customs Act, R.S.C., 1952, c. 58, ss. 54-55.

¹⁰Ship Construction Drawback Regulations, Order in Council P.C. 1954-835, June 3, 1954, Statutory Orders and Regulations, 1955, vol. 1, p. 722, made under s. 273 (k) of the Customs Act, above.

¹¹Excise Tax Act, R.S.C., 1952, c. 100, sch. III, under head "Marine and Fisheries".

Encouragement to Canadian shipbuilders is afforded by the Canadian Vessel Construction Assistance Act.¹² For income tax purposes, the normal annual rate of capital cost allowance for ships is 15% on the reducing balance principle. This Act permits a shipowner to deduct an increased annual capital cost allowance for ships built and major alterations made in Canada. The special annual rate is $33\frac{1}{3}\%$ of the actual capital cost until the latter has been fully written off. While this relief is given to the shipowner and not the shipbuilder, the effect is to encourage the building and conversion of ships in Canada. The shipowner of course eventually has to pay tax on his income from the operation of the ship but he has the advantage of being able to recover his capital much earlier than he otherwise would. This advantage is discussed more fully in Chapter VI and Appendix XIV. As a further encouragement to Canadian shipbuilders a shipowner who disposes of his ship for a price greater than its depreciated value is not required to bring the difference into his income, as he otherwise would, if he retains the proceeds for the purpose of replacing the ship. Such replacement must be under conditions satisfactory to the Canadian Maritime Commission. In view of the title of the Act the Commission requires construction in Canada.

C. Regulation of Canadian Coasting Trade

The coasting trade of Canada is not subject to overall regulation as to services or charges, although several services are regulated extensively in these respects. In the services that are regulated, a distinction has been drawn between carriage of bulk cargoes and carriage of other cargoes variously described in the trade as "package freight" or "general cargo". Certain passenger services are also regulated.

I. Regulation of Carriage of Bulk Cargoes

Continuing legislation provides for regulation of the carriage of bulk cargoes in the coasting trade in two instances, both limited geographically.

First, the carriage of grain from Fort William and Port Arthur to other ports in Canada or in the United States is subject to regulation as to the maximum rates that may be charged under the Inland Water Freight Rates Act.¹³ Shippers of grain are required to file with the Board of Grain Commissioners for Canada before the grain is loaded a copy of the charter party, bill of lading or contract under which the grain is shipped. The Board of Grain Commissioners is required to tabulate and analyse the tariffs and freight rates and to keep itself informed as to freight rates and availability of cargo space. When in the opinion of the Board the rates which any operator is charging a shipper are unreasonable, excessive or discrimina-

¹²Canadian Vessel Construction Assistance Act, R.S.C., 1952, c. 43 (effective January 1, 1949).

¹³Inland Water Freight Rates Act, R.S.C., 1952, c. 153.

tory, the Board is empowered to prescribe maximum rates in an amount that it considers reasonable. At the present time the maximum rate for the carriage of grain from Fort William or Port Arthur to Montreal except for December loadings, is per bushel: wheat 16c, oats 14c, rye 16c and barley 15 $\frac{1}{4}$ c, with appropriately graduated rates for carriage to intermediate points.

The Inland Water Freight Rates Act was enacted in 1923 following the report of the Royal Commission previously mentioned. When first enacted the Act, in addition to authorizing the fixing of maximum rates, also provided that grain carriers should fix and publish a tariff of tolls on the carriage of grain from Fort William or Port Arthur to ports either in Canada or in the United States. Much Canadian grain was previously moved by U.S. ships from Fort William and Port Arthur to Buffalo. These vessels withdrew from the trade as they refused to publish tariffs. The statute was amended in the following year to eliminate the requirement of publishing tariffs in advance, requiring merely that copies of every contract be filed by the Canadian shipper with the Board of Grain Commissioners. The power to fix maximum rates was continued.

Second, under the Transport Act,¹⁴ the carriage of goods in bulk on the Mackenzie River is subject to complete regulation by the Board of Transport Commissioners. The ship operator must obtain a licence to engage in this trade and his rates, tolls, tariffs and services are subject to its direction.

Legislation due to expire May 31, 1958 authorizes the Governor in Council to establish a Transport Controller with power to regulate and control the carriage of goods in bulk for the purpose of ensuring the prompt, efficient and orderly transport by ship or rail. This power does not extend to the regulation of tariffs and tolls. Under existing regulations a Transport Controller has authority to order any person dealing in or with bulk transportation facilities to transport goods in bulk in priority over any other goods in bulk, or other goods. The power was designed to ensure efficient and orderly transportation of the western grain crop. The office of Transport Controller has been vacant since December, 1956.

II. Regulation of Carriage of General Cargo and Passengers

Under the Transport Act, the carriage of general cargo and passengers in the coasting trade of Canada is subject to regulation in the following instances:

- (a) on voyages beginning and ending in the waters of the Great Lakes and St. Lawrence River west of the Island of Orleans; and
- (b) on the Mackenzie River.¹⁵

¹⁴Transport Act, R.S.C., 1952, c. 271, s. 12.

¹⁵Transport Act, above, s. 12.

The carriage of general cargo and passengers in vessels over 500 gross tons (10 tons in the waters of the Mackenzie River watershed) in these areas is subject to extensive control. The carrier must first obtain a licence from the Board of Transport Commissioners to engage in the trade. Before any licence is granted the Board “ . . . shall determine whether public convenience and necessity require the transport, and in so determining the Board may take into consideration, *inter alia* . . . ”

(a) Any objection by persons already providing facilities, whether by rail or by water on the proposed routes on the ground that suitable facilities are, or if the licence were issued would be, in excess of requirements;

(b) Whether or not the service would tend to develop the complementary rather than competitive functions of the different forms of transport, if any, involved in any objection;

(c) The general effect on other transportation services or any public interest that may be affected; and

(d) The quality and permanence of the service to be offered and the financial responsibility of the applicant.¹⁰

The Board of Transport Commissioners is required to carry out its duties with the object of co-ordinating and harmonizing the operations of all carriers engaged in transport by railways and ships.

The licence may specify the ports to be served, the services to be provided and the ships to be employed. No ship imported into Canada after 1938, other than a British ship, may be licensed if it is more than ten years old.

When a licence has been granted, the licensee is required to file a standard tariff or tariffs of tolls with the Board for approval. In addition, the carrier may file special tariffs or competitive tariffs. All tariffs are subject to approval by the Board and no tolls may be charged except in accordance with these tariffs. Extensive provisions are made to ensure that the tariffs are fair, reasonable and non-discriminatory.

The carrying of general cargo and passengers between ports on the Pacific Ocean, or between ports on the Atlantic Ocean, by vessels engaged in the intercoastal trade, may also be brought under these provisions of the Transport Act by proclamation of the Governor in Council. At present it is not subject to regulation.

III. Regulation of Special Aspects or Particular Services

There is no restriction, on a basis of nationality, of the persons who may be employed either on Canadian ships or British ships engaged in

¹⁰Transport Act, above, s. 5.

the coasting trade except that officers must be properly certificated and only British subjects may be certified under Canadian legislation as qualified officers. A similar restriction applies under the United Kingdom legislation. Certificates obtained under United Kingdom legislation or Canadian legislation are, by reciprocal arrangements, interchangeable. Restrictions are imposed however on persons who may be employed on Canadian ships in the Great Lakes.¹⁷ No person may be so employed unless he has obtained a Seaman's Card from an office of the National Employment Service. The issue of a Seaman's Card is under the direction of the Minister of Labour, who may refuse to issue a card if he is satisfied that the presence of the seaman on board a Canadian ship in the Great Lakes would prejudice the security of Canada.

Where a railway company operates vessels as part of its system connecting any point on its railway with any other part of Canada, such service by ship is subject to the same regulation under the Railway Act as if it were part of the railway. The provisions of the Railway Act relating to tariffs, joint tariffs, tolls and similar matters, apply to this part of the coasting trade of Canada.¹⁸

The Maritime Freight Rates Act,¹⁹ the general effect of which is that the freight rates in the Maritime Provinces are fixed at 20 per cent below the normal rates that might be charged, the cost of the reduction being borne by the Federal Government, also has an effect in the coasting trade in certain instances. The services between Sydney, N.S., and Port aux Basques, Nfld., and between Cape Tormentine, N.B., and Borden, P.E.I., are deemed to be part of the railway service of the Canadian National Railways, and the service between Saint John, N.B., and Digby, N.S., is deemed to be part of the railway service of the C.P.R. The tariffs and tolls charged for this portion of the service are, therefore, subject to the general regulation under the Railway Act and to the reduction required under the Maritime Freight Rates Act.

Finally, certain essential shipping services in the coasting trade of Canada are subsidized by the Government of Canada as the services would not be performed on a normal commercial basis. Where services are subsidized they are subject to requirements imposed by the contracts under which the subsidies are payable.²⁰

D. General

Certain other legislation affecting ships engaging in the Canadian coasting trade and their operation should be noted.

¹⁷Great Lakes Seamen Security Regulations, Order in Council P.C. 1954-262, Statutory Orders and Regulations, 1955, vol. 3, p. 2464, made pursuant to the Navigable Waters Protection Act, R.S.C., 1952, c. 193, as amended by Stat. Can., 1953-54, c. 37.

¹⁸Railway Act, R.S.C., 1952, c. 224, s. 363.

¹⁹Maritime Freight Rates Act, R.S.C. 1952, c. 174.

²⁰Provision for these subsidies is made in the annual Appropriation Acts. The subsidies are administered by the Canadian Maritime Commission.

Extensive provisions of the Canada Shipping Act deal with the manning and equipment of ships. These are however technical matters relating to the safety of the vessels, crews, passengers and cargoes, and, as indicated later, do not appear to require consideration by this Commission in relation to coasting trade or shipbuilding policy. They are therefore not outlined here.

All ships entering or leaving Canadian ports are required to comply with certain customs procedures in reporting their cargoes, stores and other matters. A ship engaged in the coasting trade may be relieved from compliance with these procedures if a licence is obtained for its operation in the coasting trade from the Minister of National Revenue under the Coasting Trade (Customs) Regulations.²¹ If the vessel carries only domestic goods or duty-paid imported goods then the licence may be obtained without any further requirements. If she carries goods that are "in bond" for customs purposes, then, to obtain the licence, a guarantee bond as security for adherence to the customs laws must be posted. A licence is not required but it facilitates operation of the vessel in the coasting trade.

All vessels built in Canada and owned by qualified persons may be registered in Canada. Since 1950, however, Section 22 of the Canada Shipping Act provides that "a ship built outside of Canada shall not, without the consent of the Minister, be registered in Canada". It is understood that the main purpose of the provision was to prevent the overloading of the Canadian Great Lakes fleet with over-age vessels. In practice, the consent is always granted where a ship is less than five years old. Where the ship is older a restrictive policy is followed and very cogent special reasons for the registration are required. Since any British ship can enter the coasting trade, this restriction does not prevent over-age British vessels of non-Canadian registry from doing so. The requirements of other countries of the Commonwealth as to the registration of vessels built outside of their territories depend upon their local laws. In the United Kingdom there is no restriction. Thus vessels built outside of Canada, even though not registerable in Canada owing to age, may be registered in other parts of the Commonwealth and may thereafter engage in the Canadian coasting trade. If built in some country of the Commonwealth they may do so without restriction. If built outside the Commonwealth they may do so upon payment of the 25% duty on foreign-built British ships.

Income earned by a non-resident through the operation of ships in the Canadian coasting trade is exempt from Canadian income taxes if the country in which the person resides extends a reciprocal exemption to Canadian residents operating ships in that country.²² This provision was introduced

²¹Order in Council P.C. 1955-222, February 17, 19, Statutory Orders and Regulations, 1955, vol. 1, p. 766, made under authority of the Customs Act, above, ss. 287 and 273.

²²The Income Tax Act, R.S.C., 1952, c. 148, s. 19(1)(c); United Kingdom convention approved by Stat. Can., 1946, c. 38; United States convention approved by Stat. Can., 1950, c. 27.

in 1928 as a result of an exchange of notes between Canada and the United States providing for such reciprocal exemptions as part of a general scheme for the avoidance of double taxation. It now applies to the United Kingdom and several other countries with which Canada has agreements for the avoidance of double taxation. One valuable effect of this provision is that Canadian ship operators on the Great Lakes can engage in international trade to and from United States ports without incurring any liability for United States income tax. On the other hand it also permits United Kingdom ship operators to engage in the coasting trade of Canada without incurring Canadian income tax liability.

The tolls to be charged for the use of canals in Canada or in the United States forming part of the St. Lawrence Seaway may well affect coasting trade in the St. Lawrence River and Great Lakes area. Since 1903 no tolls (as distinct from charges for some services) have been exacted by either the Canadian or United States Governments for passage through canals on the St. Lawrence or Great Lakes in their respective territories. Both Governments however, now have provided for charging tolls for the use of the canals that will form part of the Seaway. In Canada the administration of the Seaway is placed under the St. Lawrence Seaway Authority by the St. Lawrence Seaway Authority Act in which extensive provisions are made to regulate the tolls.²³ Corresponding legislation has been enacted in the United States.

Finally, provisions of the Combines Investigation Act and the Criminal Code prohibit combinations or conferences amongst ship owners in the coasting trade such as are common in international shipping. By the Combines Investigation Act it is an offence to form a combination having or designed to have the effect of limiting facilities for transporting, or fixing a common cost of transportation, or enhancing the price of transportation, or preventing or lessening competition in transportation, to the detriment of the public interest. By the Criminal Code it is an offence to agree to limit unduly the facilities for transporting articles that are the subject of trade and commerce or to prevent or lessen unduly competition in the transportation of such articles.²⁴

²³St. Lawrence Seaway Authority Act, R.S.C., 1952, c. 242.

²⁴Combines Investigation Act, R.S.C., 1952, c. 314; Criminal Code, Stat. Can., 1953-54, c. 51, s. 411.

CHAPTER III

The Canadian Coasting Trade

Waterborne transportation is the cheapest and in some cases the only practicable means of carrying a wide variety of goods from one place to another in Canada. Passengers are also carried in the coasting trade, but cargo movement predominates in the amount of shipping space utilized and the revenue derived. Hence the emphasis of the present chapter is on cargo movements.

Bulk and Package Freight

About nine-tenths of the tonnage of cargo in the coasting trade consists of bulk commodities of relatively low value in proportion to volume or weight, and for which low-cost transportation is of the greatest economic importance to Canada. The remaining one-tenth includes a wide variety of miscellaneous goods of varying size, weight and composition, of higher unit value than most bulk commodities; these are commonly termed "general cargo", or in the Great Lakes trade "package freight". In the case of bulk cargoes, an entire shipload of a single commodity may be transported on behalf of a shipper from one loading port to one discharging port. On the other hand general cargo comprises a large number of individual shipments and may be loaded and discharged at various ports on the vessel's pre-arranged itinerary.

The different crafts engaging in the coasting trade are almost as varied in appearance and functional characteristics as the kinds of cargo they carry. There are passenger liners and bulk freighters, some of the latter with a cargo capacity greater than that of most ocean-going cargo ships. There are specialized vessels for carrying coal, cement, or petroleum. There are barges and rectangular scows, dependent on tug boats for propulsion. The cargo may itself form the vessel, as in the case of log rafts assembled for towing on the British Columbia coast. The vessel designed to carry general cargo usually has more decks and more elaborate cargo-handling equipment than the bulk carrier, and may also be fitted to accommodate passengers. While the special design features of coasting vessels represent adaptations to the requirements of particular trades, they also impose limitations on the flexibility of employment in operations other than those for which the vessels were intended.

Cargo and Ballast Movements

The optimum utilization of the cargo capacity of ships would be realized only if there were a balance of outgoing and returning cargoes on the routes on which the ships are engaged. Such a balance is seldom achieved. On the Great Lakes, where the eastward movement of grain is the predominating feature of the coasting trade, ships generally leave the lakehead ports fully loaded and return in ballast. Even when operations in the coasting trade are integrated with voyages to United States ports, downbound cargoes of grain and ore considerably outbalance upbound cargoes of coal and pulpwood.

A sampling survey conducted for the Commission showed that in June 1956 more than 40% of the distance travelled by 28 Canadian upper lake bulk freighters represented voyages in ballast from ports where cargo had been discharged to ports where the next cargo was to be loaded. Until iron ore from Quebec and Labrador became available for shipment from Contrecoeur to ports on the Great Lakes, the small bulk freighters operating through the St. Lawrence Canals experienced a similar lack of balance between downbound cargoes, consisting chiefly of Canadian grain and United States coal, and upbound cargoes usually of pulpwood or newsprint. The transshipment at Contrecoeur of iron ore from Sept-Iles has now augmented the upbound cargo tonnage. A study of the operations of 20 canal-type bulk freighters, selected at random, showed that during June 1956 less than 20% of the distance travelled by these vessels represented trips in ballast.

On the Pacific Coast, the uneven utilization of cargo capacity is especially apparent in towing operations, where scows and barges used in the bulk carrying trades generally are towed back light after discharging their cargoes. However, a major economy of this form of water transportation lies in the fact that the tug which provides motive power is not permanently attached to its cargo space, which is provided by one or more scows or barges. A single tug can therefore service a number of scows or barges in turn, dropping some of them off where required to be loaded or unloaded, taking others in tow, and spending more of its time in profitable employment than would be possible if motive power and cargo space formed parts of a single vessel.

Cargoes Moved in Coasting Trade

No official statistics of Canadian coasting trade cargoes are available for the period before 1952. From 1952 onwards, the Dominion Bureau of Statistics has compiled data which are presented in the annual *Shipping Report*. The total tonnage however has never been precisely determined as only data from ports at which there is a customs official are reported,

TABLE I

Estimated Tonnage of Coasting Trade Cargo Showing the Major Commodities Transported in 1952, 1953, 1954 and 1955¹

	1952		1953		1954		1955	
	Thousand Short Tons	%	Thousand Short Tons	%	Thousand Short Tons	%	Thousand Short Tons	%
Grain	12,779	36.1	12,934	34.1	10,324	31.9	10,019	27.5
Petroleum Oils and Products	8,792	24.9	9,082	23.9	6,411	19.8	7,177	19.7
Pulpwood	2,734	7.7	2,766	7.3	3,344	10.3	4,079	11.2
Coal and Coke	1,999	5.6	2,241	5.9	2,399	7.4	2,101	5.8
Logs and Piling	1,337	3.8	1,554	4.1	1,382	4.3	1,699	4.7
Sand, Gravel and Stone	1,157	3.3	1,248	3.3	1,166	3.6	1,238	3.4
Iron Ore	887	2.5	1,125	3.0	794	2.5	2,263	6.2
Cement	546	1.5	650	1.7	621	1.9	765	2.1
Limestone	435	1.2	414	1.1	375	1.2	341	0.9
Metallic Ores (except iron ore)	342	1.0	365	1.0	393	1.2	483	1.3
Hogged Fuel	332	0.9	615	1.6	629	2.0	707	1.9
Newsprint and Paper	267	0.8	250	0.7	236	0.7	242	0.7
Gypsum	216	0.6	233	0.6	310	1.0	315	0.9
Lumber	163	0.5	185	0.5	140	0.4	381	1.0
All other Cargo	3,375	9.6	4,248	11.2	3,822	11.8	4,637	12.7
Total	35,361	100.0	37,910	100.0	32,346	100.0	36,447	100.0

This table has been derived primarily from statistical data presented in Section III of the *Shipping Report* for the given years. The Dominion Bureau of Statistics prefaces Section III with the following qualification: "The totals are incomplete . . . as the data are received only from Canadian ports at which there is a collector of customs and excise. The shipping activity carried on at the numerous small ports across the country which do not have a resident customs collector is not available and therefore the totals are understated to this extent. This also results in a difference between the total amounts of cargo loaded and unloaded." To cite examples, in 1954 more than 300,000 tons of limestone, unreported as cargo loaded, were shown as unloaded at Sydney, N.S.; and more than 500,000 tons of pulpwood and pulpwood chips were shown as loaded at Vancouver in the coasting trade although only a fraction of this amount was reported as subsequently unloaded at British Columbia ports.

It is assumed for practical purposes that in the coasting trade cargo tonnage loaded will equal cargo tonnage unloaded. The commodity tonnages shown are basically the greater of those indicated in Table II (cargoes loaded) and Table XII (cargoes unloaded) of the *Shipping Report*. No attempt has been made to account for cargo losses in transit or cargoes which are en route at the beginning and at the end of the calendar year (e.g., wheat stored afloat during the winter). In addition, the tonnage of Alberta crude oil shown in Table IV of Section I of the *Shipping Report* has been incorporated with "Petroleum Oils and Products" as being a part of coasting trade by definition. Those cargoes which are both loaded and discharged at non-reporting ports and for which no reliable data have been collected are necessarily omitted.

A certain amount of coasting trade cargo is transhipped on the way to its destination, and in such cases is counted separately in each of the carrying vessels, with some resulting duplication of reported traffic. Wheat, for instance, may be loaded into an east-bound upper lakes bulk freighter at Fort William, unloaded at Port Colborne, and subsequently loaded again into canal-type vessels to be discharged at Montreal. Statistically, the wheat is counted each time it is loaded. Such duplication will be avoided if, following the completion of the Seaway, wheat thereafter moves without transhipment from the head of the Lakes to Montreal or below.

Statistics of waterborne traffic are not available on a ton-mile basis.

TABLE II
Regional Distribution of the Coasting Trade, Showing the Major Commodities Transported in 1952, 1953, 1954 and 1955.¹
(Million short tons)

	1952				1953				1954				1955			
	Great Lakes	Between Gt. Lakes and E. Canada	Eastern Canada	Pacific Coast	Total	Great Lakes	Between Gt. Lakes and E. Canada	Eastern Canada	Pacific Coast	Total	Great Lakes	Between Gt. Lakes and E. Canada	Eastern Canada	Pacific Coast	Total	Total
Grain	9.2	3.6	—	—	12.8	8.8	4.1	—	—	12.9	6.3	4.0	—	—	10.3	10.0
Petroleum Oils and Products	4.6	1.5	2.1	0.6	8.8	4.9	1.1	2.5	0.6	9.1	2.1	1.0	2.5	0.8	6.4	7.2
Pulpwood	0.2	0.2	2.0	0.3	2.7	0.2	0.2	2.1	0.3	2.8	0.2	0.2	2.4	0.5	3.3	4.1
Coal and Coke	—	—	1.8	0.2	2.0	—	—	2.0	0.2	2.2	—	—	2.3	0.1	2.4	2.1
Logs and Piling	—	—	—	1.3	1.3	—	—	—	1.6	1.6	—	—	—	1.4	1.4	1.7
Sand, Gravel, Stone	0.7	—	—	0.5	1.2	0.5	—	—	0.7	1.2	0.6	—	—	0.6	1.2	1.2
Iron Ore	0.2	—	0.7	—	0.9	0.3	—	0.8	—	1.1	0.2	—	0.6	—	0.8	2.3
Cement	0.1	—	0.2	0.2	0.5	0.2	—	0.1	0.3	0.6	0.2	—	0.2	0.2	0.6	0.8
Limestone	—	—	0.4	—	0.4	—	—	0.3	0.1	0.4	—	—	0.3	0.1	0.4	0.3
Metallic Ores (other than iron ore)	—	—	0.2	0.1	0.3	—	—	0.3	0.1	0.4	—	—	0.3	0.1	0.4	0.5
Hogged Fuel	—	—	—	0.3	0.3	—	—	—	0.6	0.6	—	—	—	0.6	0.6	0.7
Newsprint and Paper	—	—	—	0.3	0.3	—	—	—	0.3	0.3	—	—	—	0.2	0.2	0.2
Gypsum	—	—	0.2	—	0.2	—	—	0.2	—	0.2	—	—	0.3	—	0.3	0.3
Lumber	—	—	0.1	0.1	0.2	—	—	0.1	0.1	0.2	—	—	0.1	0.1	0.2	0.4
All Other Cargo	0.6	0.6	1.1	1.1	3.4	0.5	0.7	1.4	1.7	4.3	0.5	0.7	1.2	1.4	3.8	4.6
Total	15.6	5.9	8.8	5.0	35.3	15.4	6.1	9.8	6.6	37.9	10.1	5.9	10.2	6.1	32.3	36.4

¹Table II has been derived primarily from statistical data presented in the *Shipping Report and Canal Statistics*, prepared by the Dominion Bureau of Statistics. An explanation of the statistical adjustments is given in the footnote to Table I above.

and consequently the Bureau's compilation omits a significant amount of coasting trade activity. A reasonable estimate of coasting trade cargoes is presented in Table I on page 20, based on data published by the Dominion Bureau of Statistics (DBS). The table shows the major commodities carried as coasting trade cargoes from 1952 to 1955 inclusive, together with the tonnage and the percentage of the total tonnage. The method of derivation is indicated in the footnote to that table.

Regional Distribution of Coasting Trade

The regional distribution of the coasting trade in terms of commodity tonnages is shown in Table II for 1952 to 1955 inclusive. The average for the four years was 35.5 million short tons. Of this total, 36.1% was carried within the region between the head of the Lakes and a point immediately west of Montreal (all of which region is briefly referred to in Table II as "the Great Lakes"), 28.7% within the region extending from the Atlantic Coast to and including Montreal (all of which region is referred to in Table II as "Eastern Canada"), 17.6% between these two regions, and 17.6% between Pacific Coast points. A negligible amount was carried on coastal voyages through the Panama Canal. Statistics have not been compiled to permit comparisons on other bases, such as the ton-miles of cargo carriage or the amount of revenue earned thereby.

Coasting Trade by Nationality of Ships

Before discussing further the regional distribution of coasting trade in Canada, it is important to know the nationality of the ships taking part in it and the extent of their participation. Table III presents this breakdown of the total tonnages from Table I. Although the *Shipping Reports* give the amount carried by vessels of various registry, the Commission has used figures prepared by the Canadian Maritime Commission which had access to more extensive information than that available to the Dominion Bureau of Statistics prior to 1957.

TABLE III
Canadian Coasting Trade by Nationality of Ships 1952 to 1955¹

Vessels	1952		1953		1954		1955	
	Thousand Short Tons	%	Thousand Short Tons	%	Thousand Short Tons	%	Thousand Short Tons	%
Canadian	33,637	95.1	36,136	95.4	30,061	93.0	32,931	90.4
Commonwealth other than Canadian	943	2.7	1,755	4.6	2,278	7.0	3,460	9.5
Foreign other than Commonwealth	781	2.2	19	—	7	—	56	0.1
All vessels	35,361	100	37,910	100	32,346	100	36,447	100

¹Based on Table I and on information obtained from the Canadian Maritime Commission.

Table III shows that the part taken by foreign ships was negligible, hence suspensions of the coasting law are not a major consideration. On the other hand the part taken by non-Canadian Commonwealth ships (coming mainly from United Kingdom) represented nearly 10% of the total tonnage moved in the coasting trade during 1955. Moreover the part taken by these ships increased from year to year, from 2.7% in 1952 to 9.5% in 1955. This percentage jumped to about 14% in 1956, the non-Canadian Commonwealth ships having moved 5.8 million tons.¹ The very sharp increase from 1955 to 1956 is mainly due to the heavier shipments of iron ore from Sept-Iles to Contrecoeur. It must be noted that after the opening of the Seaway these shipments of ore will become international.

The part taken by United Kingdom ships in Canadian coasting trade was confined almost exclusively to Eastern Canada. Within the Great Lakes and Pacific areas it was practically non-existent, and between the Great Lakes and Eastern Canada it was very small, being almost exclusively limited to the moving of general cargo to and from Newfoundland. In Eastern Canada, as indicated in Table IV below, the part taken by British ships in the coasting trade increased from 10% in 1952 to 28% in 1955. For 1956 it is estimated that the figure will be about 40%.¹ The trades in which United Kingdom vessels are major participants are coal, iron ore, ilmenite, gypsum and general cargo.

TABLE IV

Participation of Non-Canadian Commonwealth Vessels in the Coasting Trade of Eastern Canada, 1952 to 1955¹

Year	Total Coasting Trade Tonnage in Eastern Canada	Tonnage Carried by Commonwealth Vessels other than Canadian	Proportion of Total
	(million short tons)		%
1952	8.8	0.9	10
1953	9.8	1.7	17
1954	10.2	2.2	22
1955	12.0	3.4	28

¹Based on Table II and on information obtained from the Canadian Maritime Commission.

Comparisons might be found more meaningful if cargo statistics were available on a ton-mile basis, to give weight to the distance cargoes were carried, or if data were to be had on vessel earnings by nationality. Lacking such information, another comparison may be made in terms of the tonnage of United Kingdom vessels in the coasting trade as compared with that of ships on Canadian registry. The Canadian Maritime Commission

¹Based on estimates, as the official figures on the volume of coasting trade for 1956 are not yet available.

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has provided a list of non-Canadian vessels engaged in the coasting trade during 1955. The Commonwealth vessels of over 1,000 gross registered tons were all registered in the United Kingdom and numbered 44, aggregating 210,602 gross registered tons, including some vessels that served partly in international trade as well. The Atlantic Coast fleet on Canadian registry at the end of that year numbered 37 vessels of 106,698 gross registered tons, to which may be added 4 vessels of 24,386 gross registered tons classed as ocean-going but employed mostly in the coasting trade, to make a total of 41 vessels of 131,084 gross registered tons.² Thus, out of 348,926 gross tons of shipping largely employed in the coasting trade of Eastern Canada, about 62% was registered in the United Kingdom.

This latter comparison is admittedly a very rough measure of the participation of U.K. ships in the coasting trade. The much greater U.K. tonnage is doubtless due in large part to the fact that many of these vessels were employed in the coasting trade for only a comparatively brief part of the season, in some cases only a voyage or two. The two comparisons together, however, show the extensive use of United Kingdom vessels.

Waterborne Trade Between Canada and the United States

Canadian registered ships find a considerable employment in trade with the United States. In 1955 the total of this waterborne trade was 44.9 million tons, as shown in Table V below. (The coverage may be accepted as complete, as the trade is international and must be reported to a Customs Officer.) According to the DBS *Shipping Reports*, from which the data are taken, ships of Canadian registry carried 24.5 million tons or 54.7%.

The amount of transborder trade varied greatly between the four regions, the largest part being the 26.1 million tons carried within the Great Lakes, of which Canadian ships carried 19.4 million tons or 74.3%. In this area, it is important to note that the advantage of Canadian ships in competition with United States vessels for transborder trade brought the Canadian operators a much larger quantity of cargo than did their almost exclusive enjoyment of coasting trade—19.4 million tons of international trade as against the 10.3 million tons of coasting trade shown in Table II. Thus the international trade provided 65% of the cargoes carried by Canadian ships within the Great Lakes.

The transborder trade between the Great Lakes and the eastern region consists chiefly of iron ore, pulpwood, pulp and paper moving upbound and coal moving downbound. The volume is small at present compared to that within the Lakes, but it is growing rapidly and is expected to become much greater when the St. Lawrence Seaway is completed. Canadian ships

²From *Canadian Merchant Fleet*, December 31, 1955, a periodic bulletin issued by the Canadian Maritime Commission.

TABLE V
Waterborne Trade between Canada and U.S.A., 1955¹
 (Thousand short tons)

Trade Movement	Cargo Tonnage by Country of Vessel Registry							
	Canada		U.K.		U.S.A.		Others	
	Tonnage	%	Tonnage	%	Tonnage	%	Tonnage	%
Within the Great Lakes	19,382	74.3	1	—	6,712	25.7	1	—
Between Great Lakes and Eastern Region (including Gulf of Mexico)	3,225	88.4	17	0.5	386	10.5	22	0.6
Eastern Regions (including Gulf of Mexico)	516	4.5	996	8.6	3,758	32.5	6,292	54.4
Pacific Coast	1,403	39.5	83	2.3	1,267	35.7	801	22.5
Total	24,526	54.7	1,097	2.5	12,123	27.0	7,116	15.8
								100

¹From *Shipping Report*, 1955, DBS.

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in 1955 carried 3.2 million tons, or 88.4%. This traffic was responsible for 32% of their business in these waters.

Within eastern waters, Canadian registered ships carried very little of the substantial transborder trade. The bulk of this international trade is carried by sea-going vessels under the flags of the United Kingdom (most of them chartered to Canadian interests), the United States and other maritime countries.

On the Pacific Coast Canadian vessels obtained 84% of their cargo from the coasting trade, in which they have very little competition from other Commonwealth shipping. The transborder trade of this region is comparatively small and there is stiff competition from vessels of United States and other registries, which collectively carried in 1955 almost 60% of the cargo.

The Great Lakes

Now that the main characteristics of the Canadian coasting trade have been indicated, it is appropriate to describe briefly the nature of the coasting trade in the different regions, and the ships carrying it. It will also be in order to remark on the role of the related transborder trades which provide important employment for many Canadian shipping concerns and contribute to the economy of their operations as a whole.

The waters of the Great Lakes as far east as Prescott have in the past become the almost exclusive preserve of ships on Canadian and United States registry, because the locks of the St. Lawrence canals prevent the entrance of vessels drawing more than 14 feet with dimensions exceeding roughly 255 feet in length and 43 feet in breadth, whereas cargo movements have developed which make it more economic to use much larger ships. Canadian vessels thus dominate the coasting trade and share largely in the transborder trade not only in these waters but also between this area and the eastern seaboard area. During the 1920's the coasting laws frequently were suspended to enable U.S. ships to enter the Canadian coasting trade for winter storage and subsequent delivery of cargoes of grain. Suspensions for this purpose are now rarely necessary because of the expansion of the Canadian upper lakes fleet, while the steady acquisition of larger, more efficient upper lakes bulk freighters together with the specialized knowledge acquired in the Great Lakes trades have effectively protected Canadian shipping from competition in the coasting trade by British ocean-going vessels capable of navigating the St. Lawrence Canals.

Seventy-six Canadian ships,³ representing more than a half million gross tons of shipping, at present operate only within the Great Lakes above Prescott. Sixty-five of these ships are bulk dry-cargo carriers, four are classed as package freighters, two are tankers, and five are passenger vessels. All except two passenger vessels are too large to traverse the St. Lawrence Canals. Five companies—Canada Steamship Lines Ltd., N. M. Paterson and

³As of December 31, 1956.

Sons Ltd., Upper Lakes and St. Lawrence Transportation Company Ltd., Colonial Steamships Ltd., and Algoma Central Steamships Ltd.—operate a total of 61 of the ships, representing 84% of the aggregate gross tonnage.

The 65 bulk cargo ships range from 300 feet in length and 5,000 tons dead-weight capacity for older vessels to over 700 feet and about 23,000 tons for those of the most recent construction. They are designed with the pilot house forward and the engine room aft, leaving a maximum of unobstructed space for loading and discharging cargo. With the exception of two self-unloading colliers which carry their own handling equipment, they are without winches and derricks, and rely upon the provision of loading and discharging facilities at the ports they serve.

The four package freighters operate between Fort William and Kingston. The most recent vessel of this type is 445 feet in length and carries about 3,500 tons of general cargo. Her advanced cargo handling arrangements are based upon a concept of palletized cargo and the use of fork lift trucks, side ports, and elevators, to transport pallets between the wharf and the ship's holds.

The two tankers, surviving units of a fleet of four built to transport Alberta crude oil, are over 600 feet in length and have a capacity of 120,000 barrels each. One is even now being converted into a dry-cargo carrier. Two of the five passenger steamers remaining in the coasting trade of the Great Lakes are operated by the Canadian Pacific Railway Company, providing sailings twice weekly during the tourist season between the Lakehead, Sault Ste. Marie, and Port McNicoll; another by the Cayuga Navigation Company Limited between Toronto and Niagara-on-the-Lake. Two newer, smaller ships, operated by the Owen Sound Transportation Company, furnish a subsidized passenger and cargo service between Owen Sound, Manitoulin Island, and Sault Ste. Marie.

In the Canadian Great Lakes coasting trade, shipments of western Canadian grain from Fort William and Port Arthur predominate. About 41% by bulk of the grain shipped from Fort William-Port Arthur in 1955-56 went to Georgian Bay and Lake Huron ports, principally Midland, Tiffin, Port McNicoll, Collingwood, Goderich, and Sarnia, about one-quarter to Port Colborne and Humberstone at the Lake Erie end of the Welland Canal, and 31% to Toronto, Kingston, and Prescott, at or near the eastern limit of the navigation system for the big freighters. Petroleum products contributed the second-largest tonnage in 1955.

The Canadian fleet of Great Lakes bulk freighters however relies heavily for employment on the international movement of commodities, principally iron ore, coal, and grain, between Canada and the United States. Shipments of these commodities across the Great Lakes constitute almost two-thirds the entire tonnage carried by the Canadian ships in a season. Canadian blast furnaces located at Sault Ste. Marie, Port Colborne, and Hamilton,

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are still fed very largely with United States ore, while most of the ore produced in Ontario is exported to the United States. In fact, during 1955, 4.6 million tons of ore from U.S. mines was exported to Canadian ports, while 3.7 million tons of Canadian ore was sent to the United States. Part of the production from the Steep Rock area, however, is used by the Canadian steel industry, and provides upper lake bulk freighters with eastbound coasting trade cargoes from the Canadian National ore loading dock at Port Arthur. A relatively small tonnage of iron sinter enters the coasting trade from Michipicoten Harbour, on the north shore of Lake Superior, though most of the Michipicoten sinter used in Canada is shipped by rail to Sault Ste. Marie.

There is little Canadian coasting movement of coal on the Great Lakes. In international trade, however, bituminous coal from the United States is a very important cargo exceeding Canadian grain in tonnage carried. DBS reports indicate that 13.6 million tons of U.S. coal was landed in Canada during 1955, 12.4 million tons of it being landed at Canadian ports in the highly industrialized area of the Great Lakes and upper St. Lawrence River above Montreal, and 1.2 million tons at Montreal and points east. Canadian registered ships are reported to have carried more than three-quarters of the United States coal landed in the Canadian Great Lakes area.

With the completion of a pipeline from Edmonton in 1950, Alberta crude oil began to flow to Superior, Wisconsin, from where it was shipped in specially constructed tankers to refineries at Sarnia, Corunna, Clarkson, and Port Credit, constituting a large coasting trade movement. The tonnages thus carried were 2,868,917 in 1952, 3,365,157 in 1953, and 543,283 in 1954. The abrupt drop in the tonnage of crude oil shipped in tankers in 1954 resulted from the extension of the pipeline from Superior to Sarnia. Fleets of small tankers ranging up to 2,500 gross tons, in most cases owned by or under the immediate control of the oil companies, distribute petroleum products in bulk from the refining centres to the various ports in the Great Lakes region during the season of ice-free navigation.

Smaller bulk freighters and specially equipped barges engage in the carriage of pulpwood chiefly from loading points on the north shore of Lake Superior and on the North Channel of Lake Huron to Thorold. A great part of Canadian pulpwood shipments crosses the Lakes to United States destinations. Other commodities moving in bulk in the coasting trade of the Great Lakes are cement, salt, and quartzite.

Sand, gravel and crushed stone for construction purposes account for a large cargo tonnage, much of it loaded in small ports and very likely understated in official statistics. The cargo is low in unit value and is usually carried in scows on relatively short hauls.

General cargo moves in upper lakes package freighters between various ports from the Lakehead to Kingston, including Sault Ste. Marie, Sarnia,

Windsor, Thorold, Hamilton, and Toronto. Calls are also made periodically at Detroit to deliver Canadian newsprint from the Lakehead. Parcels of grain and flour are frequently included in shipments down the Lakes.

European tramp steamers began to come into the Great Lakes in the 1920's to load grain for overseas destinations, and Norwegian interests inaugurated a regular overseas shipping service from the Great Lakes in the mid-1930's. In 1953 two small cargo steamers registered and manned in the United Kingdom engaged in the grain trade between Fort William and Collingwood, transporting 1.5 million bushels. This venture, while not repeated, emphasized the possibility that large sea-going ships, when enabled to enter the Great Lakes upon the completion of the Seaway, might profitably exploit opportunities to compete with domestic shipping in coasting as well as in transborder trade in the Great Lakes region.

Trade Between the Great Lakes and Eastern Canada

One hundred and ninety-three Canadian ships⁴ (whose dimensions are just within the limits imposed by Lock 17 of the Cornwall Canal) are employed, for the most part, in the carriage of cargo between ports on the Great Lakes and on the lower St. Lawrence River. One hundred and thirty-nine of these "canallers" are bulk dry-cargo carriers, including thirteen self-unloaders, seventeen are package freighters, and thirty-seven are tankers. Three companies—Canada Steamship Lines, Colonial Steamships, and N. M. Paterson and Sons'—operate a total of seventy-six canallers, approximately one-half of the dry-cargo fleet of canal-sized vessels.

Of the cargo tonnage carried by the Canadian canaller fleet, two-thirds or more is coasting trade cargo with grain the major commodity. Much of the cargo is transhipped from upper lakes bulk carriers to be taken to Montreal and ports farther east, and some from inbound ocean vessels to be delivered to ports in the Great Lakes. Many of the bulk-carrying canallers depend for steady employment on trade between Canada and the United States, carrying coal down-river and iron ore, newsprint, and pulpwood up.

About one-third of the total tonnage of grain composing coasting trade cargo consists of shipments transferred from storage elevators at Sarnia and ports farther east into canallers for carriage to terminal elevators at Montreal, Sorel, Trois-Rivières, and Quebec City. Also in the coasting trade, westbound Labrador iron ore is transhipped into canal vessels at Contrecoeur, Florida phosphate fertilizer at Sorel, and Nova Scotia gypsum at Montreal, the ore and phosphate for delivery at Hamilton, and the gypsum at Belleville. Other canal vessels load pulpwood at such places as Shelter Bay, Franquelin and Forestville, on the north shore of the lower St. Lawrence River, for Thorold, and sulphur at Sorel for Cornwall, Hamilton, and Thorold.

⁴As of December 31, 1956.

The operations of canal-type package freighters are flexible enough to meet varying demands of traffic. While some vessels are employed in carrying general cargo between Montreal, Toronto, and Hamilton, others go as far west as Fort William. Package freighters, in addition to handling individual small shipments of miscellaneous goods, may in typical operations load flour at Fort William for Sarnia or grain for Walkerville, call at Red Rock for consignments of paper, take automobiles on board at Windsor, and perhaps carry grain from Kingston to Trois-Rivières. Canal-type package freighters, chiefly because of features of their design best adapted to loading and discharging in non-tidal waters, rarely proceed below Trois-Rivières.

Traffic between the Great Lakes and tidal ports in eastern Canada, favouring the employment of small vessels having sea-going characteristics, attracts during each season a few ships from the United Kingdom. Two regular steamship lines base their operations between the Great Lakes and Newfoundland on the use of United Kingdom shipping. One, the Newfoundland-Great Lakes Steamships Ltd., of Toronto, inaugurated a service from Hamilton and Toronto to St. John's immediately after Newfoundland entered Confederation in 1949. The company uses three vessels of the Dundee, Perth and London Shipping Company, of Dundee, Scotland. The other line, known as Constantine Canadian Services (not incorporated in Canada), began its operations from Hamilton and Toronto to Corner Brook and St. John's in 1953 with two vessels furnished by the parent company, Joseph Constantine Steamship Line, Ltd., of Middlesbrough, England.

The operations of canal tankers are carefully ordered to the tasks of distributing the various kinds and grades of oils and lubricants to where they are in demand, and of preserving a balance of the stocks of petroleum distillates at the major distributing centres. The versatility of many of the tankers enables them to be employed either in the Great Lakes or on the seacoasts, and, when the need is indicated, to transfer surplus stocks from one region to another.

Eastern Canada

On the St. Lawrence River, general navigation is limited to a period of about eight months in the year. Ice forms early in December, and the river has been virtually closed to shipping until channels are again clear around mid-April. During the navigation season, regular coastal steamship service is provided by Canada Steamship Lines between Montreal and Quebec and down the St. Lawrence River to Tadoussac and into the Saguenay River. Other summer services are provided by the Clarke Steamship Co. to points on the north shore of the St. Lawrence as far east as Blanc-Sablon and along the south shore to Gaspé and the Magdalen Islands, and by the Anticosti Shipping Co. to Anticosti Island, and, commencing in 1957, by

Federal Intercoastal Line to Forestville, Baie-Comeau, and Sept-Iles. After the suspension of regular navigation from Montreal and Quebec City, Clarke Steamship Co. maintains a winter service from Pointe-au-Pic along the north shore to Havre St-Pierre. Ports from Forestville to Sept-Iles are linked with Rimouski and Matane in the navigation season, by services operated by the Lower St. Lawrence Transportation Company, Limited. These several shipping operations constitute the major coasting liner services within the lower St. Lawrence River region, utilizing a dozen vessels, most of which carry passengers as well as general cargo. In addition, a new service is being offered by Quebec Steamship Lines between Montreal and Halifax with calls, when there is sufficient inducement, at Sydney and Charlottetown.

On the entry of Newfoundland into Confederation in 1949, it was expected that the coasting trade would be affected by the influence of new tariff relationships on the pattern of the island's commerce, and by the exclusion of ships other than British from the carrying trade between the new province and the rest of Canada. The removal of former tariff barriers to trade with the other Canadian provinces has resulted in a greater flow of Canadian manufactured goods into Newfoundland—shipments from Canadian ports on the Great Lakes to Newfoundland, for instance, were 30,000 tons greater in 1954 than in 1948—but has not strikingly altered the aggregate tonnage of the cargo shipped, consisting in the main of bulk raw materials not previously dutiable and fuels. While the change in total volume of shipments between Newfoundland and the Canadian mainland has not been of major proportions, the extension of the Canadian coasting laws to Newfoundland brought about a pronounced shift of traffic from foreign to British carriers. In 1948, half the tonnage of Canadian exports to Newfoundland was being shipped in foreign bottoms which, in the following year, were to be deprived of the right to engage in the trade. Since then, the traffic has gravitated to vessels registered in the United Kingdom.

In 1949, there were seven steamship lines regularly in service between Newfoundland and the Canadian mainland, two of which used United Kingdom vessels. At the present date, the total number of services has increased to eleven, of which five use United Kingdom vessels. The service known since 1947 as the Furness Warren Line, between Liverpool, England, and St. John's, Halifax, and Boston, derives in part from the Canada and Newfoundland Line of steamers, which in 1912 came under the control of Furness, Withy and Company, Limited, a British corporation.⁵ Furness, Withy and Company further expanded their interests in the trade of Newfoundland in 1929 by acquiring the Red Cross Line, operating between New York, Halifax and St. John's. With the changed status of Newfoundland, both steamship lines found themselves combining coasting and inter-

⁵The Furness Warren Line and its predecessors have been operating in the trade between Liverpool St. John's, Halifax and Boston since about 1839, i.e. well over a century.

national trading during the course of a voyage. Reference has previously been made to the new services introduced from the Great Lakes to Newfoundland by the Newfoundland-Great Lakes Steamships, Ltd., and Constantine Canadian Services. The Canadian National Railways furnishes steamship service between North Sydney and Port-aux-Basques and between North Sydney and Argentina, linking the railway transportation system of Newfoundland with that of the mainland. Two lines operating from Montreal are associated with Clarke Steamship Company, one serving Corner Brook and the other St. John's. Ferguson Industries, Ltd., operates a cargo steamer between Charlottetown and St. John's. Newfoundland Canada Steamships, Ltd., and Blue Peter Steamships, Ltd., provide service between Halifax and St. John's, although Blue Peter Steamships has reduced its service in 1957 to occasional voyages only.

Colliers of the Dominion Steel and Coal Corporation's fleet ply regularly between Sydney and the major ports of the lower St. Lawrence and Saguenay Rivers, carrying bituminous coal from Cape Breton Island to westward points and returning in ballast. While substantial tonnages of Cape Breton Island coal also move by sea to Halifax and to St. John's, and there are important local movements from distribution centres to outports, the traffic to the St. Lawrence River ports, assisted by a Canadian Government subvention, constitutes the major coal movement in the coasting trade. In common with the iron ore, ilmenite, and gypsum trades in the lower St. Lawrence River, the coal trade is particularly attractive as a chartering operation, owing to the limited navigation season and the requirement for ocean-going types of steamers. United Kingdom vessels are generally utilized, often on long term charters, leaving very limited opportunities for the employment of Canadian ships at remunerative rates.

In the history of the transportation of coal from Cape Breton Island to Montreal and other Quebec ports are to be found the most interesting examples of the use of non-Canadian ships in the Canadian coasting trade. Fifty years ago, Norwegian colliers, chartered at lower rates than British owners were willing to accept, held a predominant position in the coal trade. A succession of Orders in Council, waiving the coasting trade provisions of the Canada Shipping Act in respect of voyages between Nova Scotia and Quebec, made it possible for Norwegian ships to continue to engage in the carriage of Cape Breton Island coal to St. Lawrence River ports until World War I. The Dominion Coal Company, apparently to lessen its dependence on chartered tonnage, acquired a small fleet of colliers of its own in the years that followed, and during the 1920's operated the ships on Canadian registry, though, for a time, with Chinese crews under occidental officers, in the manner of some of the chartered British vessels of those years.

In 1930 the management and registry of the Canadian colliers were transferred to Great Britain in the hope of developing off-season employment. Two of the ships were returned to Canadian registry in 1939, in time to become useful additions to Canada's small merchant marine at the outbreak of war. Only one-fifth to one-quarter of the total tonnage of coal shipped from Cape Breton Island in the coasting trade in recent years has been carried in Canadian-flag ships.

Twenty-one ships of United Kingdom registry participated in the Cape Breton coal trade in 1953, eighteen in 1954, and eighteen in 1955, carrying 79%, 75% and 75% of the total tonnage of coal in the respective years. Most of the chartered ships are engaged for a period of time or for a number of consecutive voyages, spot charters being arranged only occasionally for vessels which, coming in from sea, would otherwise steam up the St. Lawrence River with their holds empty.

Bell Island in Conception Bay and Aguathuna (Port-au-Port), both in Newfoundland, are the respective sources of the iron ore and the limestone used in the steel furnaces at Sydney. In the three years 1952, 1953, and 1954, close to three-quarters of all the iron ore entering the coasting trade came from Bell Island, the crushed ore, hematite, having been shipped from Wabana in Canadian-flag, single-decked ocean-going steamers owned by a subsidiary of the Dominion Steel and Coal Corporation. The same vessels carried limestone from Port-au-Port, the shipping point for 85% of the reported total tonnage of limestone which moved in the coasting trade.

With the first shipment of ilmenite from Havre St-Pierre to Sorel in 1950 and of iron ore from Sept-Iles in 1954 the metallic mining industry began to contribute a more substantial tonnage of cargo for both coastal and transborder shipments in the eastern region. Table II shows that the 1955 shipments of iron ore in the coasting trade amounted to 1.8 million tons and those of other metallic ores (chiefly ilmenite) were in the order of 400,000 tons. In 1956 there was a sharp increase in this coasting trade movement as indicated below:^a

	<i>Short Tons</i>
Ilmenite from Havre-St-Pierre to Sorel	627,600
Iron ore from Wabana to Sydney	548,700
Iron ore from Sept-Iles to Contrecoeur for transhipment	3,088,600
	<u>4,264,900</u>

The carriage of iron ore from Sept-Iles to Contrecoeur as a coasting operation is essentially a constituent part of an international movement to supply the great United States steel industry bordering on Lake Erie. Only the physical and economic limitations of direct shipment in vessels small

^aFrom *A Survey of the Iron Ore Industry in Canada during 1956* by T. H. Janes, Department of Mines and Technical Surveys, Ottawa.

enough to negotiate the St. Lawrence canals have channelled the ore, until now, into the Canadian coasting trade for nearly five hundred miles of its journey to the smelters of the U.S. interior. With the opening of the St. Lawrence Seaway, this movement will become part of the transborder trade.

Iron ore is also a major and increasing item in the waterborne trade between Canada and the United States within the eastern region. During 1956, 7.5 million short tons of ore were shipped from Sept-Iles to the U.S. Atlantic seaboard.

Shipments of iron ore from the Quebec and Labrador deposits are expected to increase substantially during the years to come. Total shipments from Sept-Iles which amounted to 13.5 million short tons in 1956 are expected to exceed 20 million tons in the early 1960's. Wide-scale explorations are being conducted in Quebec as well as in Labrador. For instance, the Quebec Cartier Mining Company, a wholly-owned subsidiary of United States Steel Corporation, announced early in 1957 that it will spend an estimated \$200 million to bring into production its deposits situated 150 miles north of Shelter Bay on the St. Lawrence. Initial production is expected to be 3 million tons in 1961, to be subsequently increased up to 10 million tons.⁷ Shelter Bay will be the shipping port for the ore.

Approximately one-third of the cement carried in the coasting trade is shipped from Montreal, chiefly to down-river ports and to Halifax. Much of the cement is in bulk, in which form it is handled by a self-unloading vessel carrying about 3,000 tons. Gypsum from Little Narrows, in the Bras d'Or region, and from the recently developed mines near Halifax, is available to provide an important return cargo.

Pulpwood has for years been a staple cargo of the shipping of the St. Lawrence region and Newfoundland, employing canal-type vessels, converted war-surplus landing craft, motor schooners, and towed barges. These vessels load at various points along the St. Lawrence River and Gulf and discharge at Port Alfred, Quebec City, Trois-Rivières and Donnacona, ports which, together with Corner Brook receive more than four-fifths of the reported tonnage of pulpwood in the coasting trade. The Corner Brook supply comes from harbours on the Newfoundland coast, hauled under contract by Branch Lines Ltd., a Canadian company using vessels of Canadian registry, to Bowater's Newfoundland mill in towed barges. These barges, converted for the purpose from surplus naval tank landing ships from which the propelling machinery has been removed, are capable of stowing nearly 4,000 tons. Two of the major paper companies, Anglo-Canadian Pulp and Paper Mills, Ltd., and Consolidated Paper Corporation, Ltd., among others, have resorted to surplus United States naval craft for pulpwood carriers.

The motor schooners, or *goélettes*, which engage in the *petite navigation* of the St. Lawrence River, are commonly about 90 feet in length and around

⁷Janes, *op. cit.*

150 gross tons. Besides pulpwood, they carry lumber, potatoes, or whatever offers. They represent, in many cases, family enterprises with a tradition descending from the time of sail.

Newfoundland is a source of fluorspar as well as iron ore and limestone. The fluorspar is used principally as a solvent for the removal of impurities in the production of aluminum. Smaller quantities are used in the production of special grades of steel at Sydney. Some of this is carried by Clarke Steamships Ltd. and associated companies, which use both Canadian and United Kingdom ships, and some by Saguenay Terminals using United Kingdom vessels.

Petroleum products make up about one-quarter of the total tonnage of cargo carried in eastern Canadian waters. Halifax serves as the regional supply centre for an area extending from the Bay of Fundy to Labrador in the same way that Montreal supplies the requirements of the St. Lawrence. Participating carriers include not only the ubiquitous canal-type tankers but also smaller craft for entering shallow, confined harbours on the Atlantic coast and larger vessels for supplying major consuming centres with gasoline, furnace oil, diesel oil, and other petroleum derivatives. All the tankers currently used on coasting trade are on Canadian registry.

Relatively minor tonnages of bulk salt are distributed to fisheries outports which themselves furnish cargoes of fish. Some lumber also enters the coasting trade of the region, particularly in the Bay of Fundy area.

Several of the coasting liner services of eastern Canada are vital ferry links between the Atlantic provinces for cargo as well as passenger traffic. These include the Canadian Pacific Railway Company's Bay of Fundy service between Saint John, N.B., and Digby, N.S., Canadian National Railways' Northumberland Straits service between Cape Tormentine, N.B., and Port Borden, P.E.I., the independently operated service between Wood Island, P.E.I., and Caribou, N.S., and the Canadian National Railways' Cabot Straits service, between North Sydney, N.S., and Port-aux-Basques, Nfld. Small motor vessels transport general cargo on a number of routes, frequently with subsidy assistance, from distribution centres to coastal outports, relying usually on fish and fisheries products for return cargo. Along the coasts of Newfoundland and Labrador, the Canadian National Railways' Newfoundland steamship services operate a fleet of cargo and passenger ships from St. John's, Argentia and Lewisporte, while throughout the Atlantic coastal region diesel-powered adaptations of the traditional Nova Scotia sailing schooner are to be found engaging as itinerant trading vessels.

The Pacific Coast

Along much of the coast of British Columbia, barges and scows have very considerably supplanted coasting steamers in the bulk carrying trades and have made inroads into the general cargo trades as well. With the

growth of air transportation, coastal passenger shipping, too, has had to accept a smaller share of traffic.

The major passenger-and-cargo liners in the British Columbia coasting trade are those operated by Union Steamships, Ltd., Black Ball Ferries, Ltd., and the two transcontinental railway companies. The Canadian Pacific Railway, with the largest single fleet, while concerned principally with the Vancouver-Victoria-Seattle and Vancouver-Nanaimo trades, also provides service to the west coast of Vancouver Island and to ports of the Alaskan Panhandle offering access to northwestern British Columbia and the Yukon Territory. The Canadian National, with only one coastal steamer now remaining under its colours, has its coasting trade interests chiefly in summer cruise traffic and in a joint operation with the Canadian Pacific to northern British Columbia ports. Union Steamships serves many small coastal communities, including those situated in the Queen Charlotte Islands, which depend for supplies upon Vancouver. The Black Ball Line operates two vessels in a ferry service between Horseshoe Bay, near Vancouver, and Nanaimo.

More than one-half of the annual passenger movement in coasting vessels on the Pacific Coast takes place in the four months from June to September. Thus, in spite of a climate permitting year-round navigation, passenger operations can be maintained near to capacity only in the summer season, and it is the regular practice to withdraw a number of vessels from service when traffic declines.

Sharing in the general cargo trades with the major passenger-and-cargo lines are the operators of a few coasting freighters, the barge lines, and the fishing companies. The bulk cargo trades have become virtually the preserve of the towing companies, whose fleets of tug boats, scows and barges have grown with the industrial expansion of the Pacific coastal region, and whose supremacy is apparently in doubt only on the longer routes.

Over short distances, scows, which can be towed in tandem, furnish economical transportation for such commodities of low value in relation to their bulk as rock, sand, gravel, hogged fuel, coal and coke, ores and concentrates, scrap metal, and bricks. Hogged fuel (waste wood chips) is a characteristic Pacific Coast cargo, shipped from Vancouver and New Westminster in scows fitted with bins, the wood chips being used chiefly for industrial heating. Nearly one-third of the cement carried in the Canadian coasting trade comes from Bamberton, on southern Vancouver Island, and is barged to Vancouver, New Westminster, and other points. Scows carry limestone from Texada Island, and sand and gravel from Howe Sound to Vancouver. Covered scows, like floating warehouses, protect rolls and flats of newsprint and paper on their way from mills at Ocean Falls and Powell River to Vancouver.

Transfer barges are used to transport railway freight cars between terminals on the provincial mainland and Vancouver Island and also to and from industrial plants in coastal locations where there are no direct railroad connections. The use of transfer barges materially reduces the amount of handling to which shipments would otherwise be subjected were they to be stowed in and discharged from vessels as well as loaded into and unloaded from freight cars.

The problem of transporting logs economically and safely on exposed sections of the Pacific Coast has for years been a challenge to the lumber industry, and the relative merits of barging and rafting have been much debated. New techniques of raft-building and new designs of log barges are periodically devised and tried out. From camp sites where the logs are floated, the tows are made to booming grounds or to sawmills in the vicinity of Vancouver, Victoria, New Westminster, Powell River, and Ocean Falls. Sawn lumber may then be loaded into scows, many of which are towed to the sides of ocean-going ships which carry the lumber to export markets.

Coal is shipped in scows to consuming centres from Union Bay, on Vancouver Island but in dwindling volume, in marked contrast with the increasing demand for petroleum fuels from the refineries and storage depots near Vancouver. Towed tanker barges carry roughly one-third of the tonnage of petroleum products moving in the British Columbia coasting trade, small self-propelled tankers handling the remainder.

Few ships except those Canadian vessels regularly in operation on the Pacific Coast enter the coasting trade in British Columbia. This absence of competition from other Commonwealth shipping is due, very likely, to a combination of circumstances: a climate permitting year-round navigation, sheltered channels favouring towing operations, loading and discharging facilities and techniques adapted to the use of scows and barges, and remoteness from the home base of potential competitors.

Intercoastal Trade

Occasional voyages were made in the intercoastal trade between eastern Canada and British Columbia even before the completion of the Panama Canal, although a regular service was not established until early in the 1920's. An intercoastal service was inaugurated by the Canadian Government Merchant Marine in 1924. The CGMM gave a measure of stability to the trade until 1932, when Canadian-flag service was relinquished in favour of more modern United Kingdom shipping taken on charter by Canadian Transport Company Ltd., of Vancouver, and operated until World War II as the Vancouver-St. Lawrence Line. During these years the frequency of sailings was closely related to the transportation requirements of the British Columbia lumber trade.

In 1949 the intercoastal trade was revived under difficult conditions by the Atpac Line, of Montreal, the venture proving short-lived. At present, intercoastal service is offered by Saguenay Terminals Limited, a subsidiary of the Aluminum Company of Canada, whose own transportation requirements help to make the operation feasible. On the way between eastern and western Canada the ships call at Caribbean and United States ports. The company uses its own as well as chartered ships, all used in this service being registered in the United Kingdom. Although the volume of intercoastal trade is negligible, the railways recognize that it represents real or potential competition in the carriage of transcontinental freight traffic.

Subsidies to Assist Coastal Shipping

Ever since Confederation the federal government has provided financial assistance for coasting trade services. The amount voted for this service in the fiscal year 1956-57 was \$14.5 million. This amount included \$7 million for services the provision of which became a federal responsibility under the terms of union for the entry of Prince Edward Island and Newfoundland into Confederation, and \$5.5 million in freight assistance for the waterborne movement of Nova Scotia coal to St. Lawrence River ports and its transshipment to destinations beyond Montreal. The remaining \$2 million represented subsidies for some twenty coasting services and was distributed regionally as follows:

Nova Scotia	\$228,000
New Brunswick	95,000
Quebec	842,000
Ontario	135,000
British Columbia	325,000
Interprovincial services	370,000

Federal subsidies are awarded to assure that reasonably adequate waterborne transportation is available in regions which, though dependent upon coastal shipping services, are unable to pay their full cost. Some of the provinces also support or assist coastal shipping operations of special significance in the development of their trade.

CHAPTER IV

Waterways of the Great Lakes and St. Lawrence River

In recent years more than half of the total tonnage moved in the Canadian coasting trade has been carried on the waterway stretching from the Gulf of St. Lawrence to the head of the Great Lakes. Most of these cargoes have been carried in Canadian ships. In addition, very large tonnages have been moved by Canadian ships in the international or transborder trade in this region. The importance of this waterway to Canadian shipping in both the coasting and international trades is at once apparent.

As has been shown in Chapter III the present navigation facilities of part of the waterway restrict the size of vessels which can proceed above Montreal. The isolation of the large lakers in the Great Lakes, together with the present legislation controlling the Canadian coasting trade, have given to operators of Canadian ships a virtual monopoly of the coasting trade on the Lakes. The ship operators contend that the improvement of navigation facilities through the construction of the St. Lawrence Seaway will, while allowing their lakers a wider movement, also threaten the secured position of their carrying trade. The ending of the isolation of the Great Lakes on the completion of the St. Lawrence Seaway is one of the issues before the Commission and will be dealt with in detail in subsequent chapters. The present chapter will be confined to a brief review of the present navigation facilities of the waterway and the projects for the St. Lawrence Seaway.

A. Present Facilities

To overcome the difference of approximately 600 feet between the water levels of Lake Superior and the ocean, vessels sailing from Montreal to Lake Superior must pass through eight canals. They are the six canals on the St. Lawrence River, the Welland Ship Canal between Lake Ontario and Lake Erie, and one of the Sault Ste. Marie Canals between Lake Huron and Lake Superior.

1. THE ST. LAWRENCE CANALS

Proceeding upstream from Montreal, vessels first pass through the six St. Lawrence Canals, built to by-pass the rapids in the St. Lawrence River between Montreal and Chimney Point. The governing depth of the canals is 14 feet, and as a result of the size of Lock 17 of the Cornwall Canal (effective length 255 feet), the maximum cargoes which can presently

pass through are between 2,400 and 3,000 tons, carried by canallers which have been designed specially for this trade. The cargo loads carried through the canals by ocean-going vessels usually do not exceed 1,500 tons.

Since the end of World War II, the amount of traffic on the St. Lawrence canals has more than doubled, from about 5.8 million tons of cargo in 1946 to 13.5 million tons in 1956. The greatest increase in traffic has been in the Canadian coasting trade, which in 1956 amounted to 7.8 million tons. The international trade passing through the canals between Canada and the United States decreased from about 2.9 million tons in 1946 to 2 million in 1954; in 1956, chiefly as a result of shipments of iron ore from Sept-Îles to the U.S. steel industry, these international shipments rose to 4.8 million tons. Direct shipments to overseas ports have shown a steady increase and in 1956 amounted to almost 800,000 tons, about 6% of total traffic. Shipments in the U.S. coasting trade increased in post-war years until 1954, when they accounted for about 4% of total traffic. Since then they have decreased, and in 1956 amounted to only 50,000 tons.

Shipments of agricultural products, amounting to 4.5 million tons in 1956, account for about 36% of the total traffic through the canals. Most of these shipments are Canadian grain moving down to deep-water St. Lawrence ports for transshipment to ocean-going vessels for export to overseas markets. More than a million tons of petroleum and other oils are usually shipped annually in the Canadian coasting trade through the canals. The other chief commodities carried by canallers are iron ore, soft coal and forest products. More than 90% of the coal shipments through the canals (1.8 million tons in 1956) move downstream from U.S. lake ports to Canadian ports on the St. Lawrence. All shipments of iron ore passing through the canals move upstream. In 1956 these shipments amounted to 2.6 million tons.

Proceeding upstream from the St. Lawrence canals, the route passes by channels dredged to a depth of 27 feet through the Thousand Islands section of the St. Lawrence to Lake Ontario, and thence through the Welland Ship Canal, which by-passes the falls and rapids of the Niagara River to overcome the difference in level between Lake Ontario and Lake Erie.

2. THE WELLAND SHIP CANAL¹

This canal extends 27.6 miles across the Niagara Peninsula from Port Weller on Lake Ontario to Port Colborne on Lake Erie. It was constructed with a controlling depth of 25 feet and with 30 feet on the lock gate sills. There are eight locks—seven lift locks and one guard lock—all of which

¹For fuller description see:

The Canals of Canada, Dept. of Transport, Ottawa, 1946.

The Welland Ship Canal 1913-1933, Dept. of Railways and Canals, Ottawa, 1935.

Great Lakes-St. Lawrence Waterway, Dept. of Transport, Ottawa, 1949.

Map of Welland Canals No. 27, Dept. of Transport, January 1954.

are 80 feet wide. The lifts of the seven range from 43.7 to 47.9 feet aggregating a total lift of 327 feet. The length clearance of the locks is 765 feet. At present depths, existing lakers can pass through the canal carrying cargoes of almost 22,000 tons.

The canal is 310 feet wide at the surface of the water and 200 feet at the bottom, and is now being deepened to a controlling depth of 27 feet. It is crossed by 6 railway bridges and 14 highway bridges. Priority is given to traffic in the canal over traffic on railways or highways.

The amount of freight carried through the canal and to ports on the canal has more than doubled since the war, from 10.5 million tons in 1947 to a peak of 23.1 million tons in 1956, with downbound cargoes amounting to 18.0 million tons and upbound to only 5.1 million tons. This traffic is nearly twice as much as that shipped through the St. Lawrence canals, and in contrast to the traffic through these latter canals, a much larger proportion, nearly 63%, is international, mostly Canadian-U.S. trade, chiefly in coal, iron ore, petroleum and other oils, paper and some grain. Nearly one-third of the total traffic is Canadian coasting trade, amounting usually to about 7 million tons per year. Nearly three-quarters of this Canadian traffic consists of downbound shipments of agricultural products, mostly grain. The U.S. coasting trade, 1.3 million tons in 1956, accounts for only about 6% of total traffic through the canal.

Traffic Problems in Welland Canal

According to the calculations of the Department of Transport, uninterrupted passage through the canal would take about 8 hours. However, records of the Control Office of the canal and evidence submitted to this Commission by some Canadian ship operators indicate that the average time taken to complete a passage through the canal in recent years has been considerably longer. Some indication of this increase in transit time is given in Table I below, presenting statistics from the canal records.

Average gross transit time includes the time which vessels must wait to enter the canal as well as the transit time through the canal. Since many other factors, including delays due to bad weather, breakdowns of vessels or canal equipment, obstructions in the canal, heavy traffic, etc., affect the time which vessels take to pass through, canal records of gross transit time should be interpreted with caution.

From this Commission's inquiries as to the operations of the canal, it would seem that most of the increase in gross transit time has been due to delays awaiting entrance. With the exception of some crowding at single locks at times of heavy traffic, the passage of most vessels through the canal appears to be efficiently and smoothly handled by those in control of operations. Any delays in traffic in the canal seem to be due chiefly to factors beyond the control of officials, such as fog and wind,

TABLE I
Average Gross Transit Time Through the Welland Ship Canal¹
(Including time waiting to enter)
(hours : minutes)

	Upbound		Downbound	
	June	October	June	October
1946	7:49	8:09	8:45	9:49
1950	8:37	9:18	9:01	9:13
1952	9:22	9:32	9:39	9:44
1956	9:04	9:00	11:44	10:17

¹1946 and 1956 data supplied by Dept. of Transport; 1950 and 1952 data supplied by Canada Steamship Lines from Canal records, Exhibit 104.

breakdowns in vessels or equipment, etc. Such delays are carefully checked and, on the whole, traffic in the canal appears to be well controlled. Total delays to all vessels inside the canal, apart from those caused by bad weather, for the 1955 season amounted to 115 hours, for the 1956 season 97½ hours.

Ship operators assert that most of the increase in gross transit time has been due in recent years to increasing delays at the entrances to the canal, especially on the upbound passage. Until recently, canal statistics did not segregate the time lost by vessels waiting to enter the canal, and therefore do not show changes in the situation in the post-war years. Canada Steamship Lines submitted to this Commission a table from the Company's records, showing time lost by their vessels waiting to enter the canal, from the opening of navigation in April to August 31, 1955. In these five months, in 883 passages, vessels of this line lost 1195 hours waiting to enter the canal, an average of 1 hour 21 minutes per passage. The greater delays at the entrances in recent years appear to have been chiefly due to the increased number of passages through the canal. The number of passages by vessels increased from 5,555 in 1946 to 9,360 in 1956, as shown in Table II below.

A contributing factor to crowding at the entrances to the canal is the number of small vessels, both foreign and Canadian, operating on this route. Of the 9,360 passages in 1956, 6,812 were made by vessels not exceeding 259 feet in length, chiefly freight and tanker canallers. Even if these small vessels are locked in pairs, their passage tends to slow down the movement of traffic through the canal, as well as reducing considerably the amount of cargo which can be carried through the canal. According to a sample check of actual locking times during one month, the average time to lock two canallers with a combined capacity of not more than 6,000 tons through a lock together, was 33.7 minutes, compared with an average of 28.9 minutes to lock a single laker capable of carrying up to 22,000 tons through the same lock.

TABLE II
Vessels Using the Welland Ship Canal¹
Through and Way Passages

Year	Canadian Vessels	U.S. Vessels	Overseas Vessels	Total
1946	4,369	1,134	52	5,555
1948	4,879	1,554	138	6,571
1950	5,504	1,716	216	7,436
1952	6,959	1,885	314	9,158
1954	6,220	1,736	523	8,479
1956	6,664	1,970	726	9,360

¹From DBS Canal Statistics.

Another factor likely to slow down traffic is the increasing number of overseas vessels using the canal. Masters and crews of these ships, less experienced in negotiating the locks than those of Canadian and U.S. vessels regularly using the canals, are often unable to manœuvre their vessels as quickly or as dexterously through the locks. Some foreign masters will not take their ships through the canal at night, and until recently used to tie up in the canal until daylight. Masters not wishing to complete the passage at night must now tie up their ships at the entrance and enter the canal at daybreak.

The opinion was expressed in evidence that, in the period immediately following the opening of the Seaway, increased traffic will cause further congestion and delay in the passage through this canal. The Commission believes that increased tonnage could be carried through this canal without congestion if most of it were transported in large vessels—a development discussed in Chapter VI. In the period immediately following the opening of the Seaway, however, the situation should be carefully watched. At that time a large number of canallers probably will still be using the canal and, with the possible increase (of which there is already evidence) in the number of overseas ships seeking passage, serious congestion may result. It may be that for a time a complete system of traffic control with priorities will have to be introduced, if full benefit of the Seaway is to be derived.

The prospective increases in traffic, notably in iron ore, may before long render the facilities incapable of handling the volume efficiently. This can only be assessed after the Seaway is in operation, the toll pattern established, and the increased traffic moving.

3. SAULT STE. MARIE CANALS

From Lake Erie the westbound route follows channels through the Detroit River to Lake St. Clair, through the St. Clair River to Lake Huron and

through St. Mary's River to the Sault Ste. Marie canals. At present the downbound channels in these rivers are approximately 25 feet deep and the upbound channels 21 feet. One-way channels are 300 feet wide and channels allowing two-way traffic have a minimum width of 600 feet. To by-pass the Sault Ste. Marie rapids in order to enter Lake Superior from Lake Huron, vessels may pass either through the Canadian lock on the north side of the rapids or through one of the four parallel locks on the U.S. side of the river.

The Canadian canal is 1.38 miles long with one lock 900 feet in length, 60 feet wide at low water level and a normal depth of 18.25 feet, to give a total rise of 19 feet. One U.S. lock has a similar depth: two have a depth of 23.1 feet, and the fourth, the MacArthur Lock, has a depth of 31 feet on the sills. This lock, which is 800 feet long and 80 feet wide, makes it possible for the largest vessels at present on the Lakes to pass between Lake Huron and Lake Superior.

Traffic through these canals reached a peak of 128.5 million tons in 1953, of which 117.8 was downbound cargo and only 11.7 upbound. In 1956 total traffic was 109 million tons. Only a very small percentage of the traffic, 3 million tons in 1956, about 3%, passes through the Canadian canal. In marked contrast to the traffic through the St. Lawrence and Welland Canals, most of the traffic through these canals is United States coasting trade, the predominating freight being iron ore moving down from the Mesabi Range to U.S. steel mills. Traffic in the Canadian coasting trade in recent years has amounted to less than 10 million tons per year, mostly grain shipments downbound to lake and river ports. International shipments, chiefly U.S.-Canadian trade, have averaged slightly more than 12 million tons in recent years, nearly 9 million tons of downbound shipments and about 3 million tons upbound, the latter being chiefly bituminous coal.

The following Table III summarizes the traffic through all the canals on the Great Lakes-St. Lawrence waterway in 1956.

B. The St. Lawrence Seaway²

Most ocean-going vessels can enter the Port of Montreal using the St. Lawrence Ship Channel, which has a depth of 35 feet. To overcome the

²For history and full description of the Seaway see, *inter alia*:

The St. Lawrence Seaway, maps and commentary by the Hon. Lionel Chevrier, President, The St. Lawrence Seaway Authority, Queen's Printer, Ottawa, 1955.

The St. Lawrence Seaway—An investment in Canada's Future, The Canadian Bank of Commerce Commercial Letter, March 1955.

The St. Lawrence Seaway and Power Projects, Department of External Affairs, Ottawa, Nov. 1954.

The Great Lakes-St. Lawrence Deep Waterway, Department of Transport, Ottawa, 1949.

Historical chronology on the St. Lawrence project, including references to the principal surveys, reports treaties, agreements, and legislation 1907-47, U.S. Congressional Record, Proceedings and Debates of the 80th Congress, Second Session.

Hearings before the Sub-committee of the Committee on Foreign Relations, U.S. Senate, 83rd Congress, First Session, April 14, 15, 16, May 20 and 21, 1953.

limitations above Montreal, the Canadian and U.S. Governments are constructing a deep waterway providing navigation channels of 27-foot depth between that port and Lake Erie (see map, Appendix IX). Under this scheme, the following projects have been agreed upon and are under construction.

TABLE III

Traffic Through the St. Lawrence, Welland, and Sault Ste. Marie Canals, 1956¹

(Million short tons)

Canal	Canadian Coasting			United States Coasting			International			Total		
	Up	Down	Total	Up	Down	Total	Up	Down	Total	Up	Down	Total
St. Lawrence	2.6	5.3	7.9	—	²	²	3.2	2.4	5.6	5.8	7.7	13.5
Welland	1.1	6.1	7.2	.5	.8	1.3	3.5	11.1	14.6	5.1	18.0	23.1
Sault Ste. Marie ³	.7	9.5	10.2	9.2	75.3	84.5	4.6	9.8	14.4	14.5	94.6	109.1

¹From DBS *Canal Statistics*, 1956, Table 3.

²50,414 short tons.

³Four United States canals and one Canadian.

1. MONTREAL TO THE HEAD OF LAKE ST. FRANCIS

The part of the Seaway from Montreal to the head of Lake St. Francis lies wholly in Canada, and all the works in this section are being carried out entirely by the St. Lawrence Seaway Authority for the Canadian Government. This Authority is now building an 18-mile canal from deep water in Montreal Harbour to Lake St. Louis above Caughnawaga, by-passing the Lachine Rapids. Two locks in this canal overcome the drop of about 45 feet in the level of the water between Lake St. Louis and Montreal Harbour. All locks on canals in the Seaway conform in general dimensions to the locks on the Welland Ship Canal.

To provide for 27-foot navigation to the head of Lake St. Louis, the channel through the lake is being dredged from the Caughnawaga end of the canal. In some places islands are being cut through or removed altogether. From the head of the lake, the Seaway proceeds through the Beauharnois Power Canal which surmounts the Cascade, Split Rock, Cedars and Côteau Rapids. This canal, which is 16 miles long, has a navigable channel with a depth of 27 feet. To by-pass the power installation at the eastern end of the canal, two single locks are being installed to lift vessels 84 feet from Lake St. Louis to the level of the canal. From this canal the

Seaway continues across Lake St. Francis, a distance of some 29 miles. Various shoal areas in the lake are being dredged to provide a navigation channel of the required depth and width.

2. INTERNATIONAL RAPIDS

From the head of Lake St. Francis to Chimney Point, 4 miles east of Prescott, the navigation works in the territory of the United States are being constructed by the St. Lawrence Seaway Development Corporation. Apart from the navigation facilities, works for generation of electricity are being constructed by the Hydro-Electric Power Commission of Ontario and the Power Authority of the State of New York. This project entails the construction of a main dam below the Long Sault Rapids and an upper control dam in the vicinity of Iroquois Point.

The essential navigation works in this area consist of two canals to by-pass the dams. The Long Sault Canal to by-pass the main dam is being built in U.S. territory, south of Barnhart Island. It has a guard gate and two locks to overcome the total difference in water level of about 83 feet between the dam and head of Lake St. Francis. From this canal the navigation channel continues through the pool created by the main dam for about 25 miles to the Iroquois Canal on the Canadian side. The latter canal, by-passing the control dam, has one lock which will have a lift of about 4 feet to the level of the water of the Thousand Islands section.

3. THOUSAND ISLANDS

The channels through this section have been dredged to a depth of about 27 feet by the Canadian and U.S. Governments since 1926. The U.S. Government has undertaken to improve the channel to conform with Seaway requirements.

4. THE WELLAND SHIP CANAL

After crossing Lake Ontario, vessels will use the Welland Ship Canal. The St. Lawrence Seaway Authority is responsible for dredging this canal to the controlling depth of 27 feet.

5. ADDITIONAL WORKS

In addition to these projects, both the Canadian and United States Governments have authorized further projects to facilitate navigation below and above the Seaway. In May 1956 the Canadian Government authorized a four-year dredging programme to widen and deepen the St. Lawrence Ship Channel from Montreal to deep water below the city of Quebec, to allow

safer and faster navigation. The Government of the United States is undertaking additional projects in the connecting channels of the Great Lakes. The U.S. Congress has authorized works³ to widen and deepen the channels in the Straits of Mackinac, St. Clair River, Lake St. Clair, Detroit River and the South Canal's westerly approach to locks in Sault Ste. Marie. These works will provide "controlling depths of not less than 27 feet",⁴ which will make these channel depths commensurate with those authorized for the St. Lawrence Seaway.

C. Harbours and Port Facilities

1. GENERAL

Efficient and economical water transportation depends, to a large extent, on harbour and port facilities, such as channels of adequate depths, docks, wharves and piers, transit sheds, grain elevators, warehouses, loading equipment, terminal railways, dry dock accommodation, etc. The National Harbours Board, a Crown Corporation, administers and operates the port facilities at eight harbours in Canada—Halifax, N.S., Saint John, N.B., Chicoutimi, P.Q., Quebec, P.Q., Trois-Rivières, P.Q., Montreal, P.Q., Churchill, Man., and Vancouver, B.C. These ports handle about one-third of the total tonnage, both coasting and international, handled at all Canadian ports. Seven other harbours—Toronto, Ont., Belleville, Ont., Hamilton, Ont., Winnipeg-St. Boniface, Man., New Westminster, B.C., North Fraser, B.C., and Port Alberni, B.C.—are under the supervision of the Department of Transport, and are administered by commissions composed of municipal and federal government appointees. The Department of Transport also directly supervises about 300 additional public harbours, which are administered under regulations approved by the Governor General in Council. At most ports shipping and other private corporations, such as railway, oil, pulp and paper companies, etc., own dock and handling facilities, in addition to those operated by public authorities.⁵

Evidence submitted to the Commission and an inspection of some of the major ports by the Commission indicate that in general the facilities at most mainland ports have been and are at present adequate for the handling of the coasting trade. At some ports in Newfoundland additional facilities and some improvement in the handling of cargoes appear to be desirable. (See also Chapter XI.)

In relation to seaway development, consideration of port facilities falls naturally into two categories: first, ports in the Great Lakes, and second, ports on the St. Lawrence. Regarding the first, plans are under way at some ports, such as Toronto and Hamilton, to improve and extend exist-

³Public Law No. 434: 84th Congress, Chapter 90, 2nd Session, N.R. 2552.

⁴Public Law No. 641: Public Works Appropriation Bill 1957.

⁵*Canada Year Book* 1955, p. 872. A commission also was authorized for Windsor, Ont. in 1957.

ing facilities. These Great Lakes ports are more concerned, however, with competition for international trade than service to the coasting trade, and therefore will not be considered further. Regarding the second, some ports on the St. Lawrence serve and will continue to serve Canadian coasting trade, and hence should be geared to the efficient handling of this traffic.

2. ST. LAWRENCE PORTS: PREPARATION FOR SEAWAY CHANGES

The major ports of the St. Lawrence region are Sept-Iles, Port Alfred, Montreal, Quebec, Trois-Rivières and Sorel; of these, the ports of Sept-Iles and Port Alfred are mainly concerned with international trade and the Seaway will provide no particular problems. On the other hand, Montreal, Quebec, Trois-Rivières and Sorel serve a highly industrialized area, in which a large part of their business is generated. This factor of local generation portends the coming and going of considerable shipping and makes these ports attractive as transshipment points, which in turn involves both coasting and international shipping (i.e., coasting to export, import to coasting). Accommodation facilities necessary or to become necessary as a result of Seaway changes for that part of the traffic generated locally are matters which may be left to the ordinary pattern of harbour development. The adequacy of transshipment facilities, however, including ability to handle efficiently increased tonnages of bulk cargo delivered in lakers to St. Lawrence River ports, are matters of national concern.

There would seem to be little doubt that under the existing coasting law the Seaway will change the existing pattern of moving grain in two respects; first, more grain will move by large vessels for transshipment at Montreal and other St. Lawrence ports, and second, more grain will move from the Lakehead directly to overseas ports. The volume of grain moved in the coasting trade to that moved directly overseas may vary from year to year. Nevertheless, there will be need for new and increased facilities at St. Lawrence ports.

A programme has been announced for improvements and extensions of facilities at ports under the jurisdiction of the National Harbours Board, namely Montreal, Quebec and Trois-Rivières.

For Montreal, a programme of capital works totalling \$57 million has been approved. These works are classified as follows: "Grain Elevators \$27,000,000; Wharves and Piers \$17,000,000; Transit Sheds \$5,000,000; Dredging and Navigation Channels \$7,500,000; and Miscellaneous Items \$500,000".

"Grain Elevator System"—The expenditure of \$27,000,000 on the grain elevator system is (1) to equip the present four grain elevators with facilities for the rapid unloading of the large lakers which, it is expected, will, on the opening of the Seaway, be bringing the bulk of waterborne grain shipments to Montreal; (2) to provide for the construction of two new grain elevators, with a total capacity of 6,600,000 bu. (bringing the

total capacity of harbour elevators to 21,762,000 bu.); (3) to make changes and additions to shipping facilities to expedite the loading of ocean vessels; and (4) to allow for miscellaneous changes and additions to machinery and equipment, and repairs to structures to place present facilities in sound operating condition. There will be four unloading berths to accommodate large lakers and three grain loading berths will be added. The result of these additions and betterments will be to increase storage capacity by 44% and to increase both the unloading and loading capacity in the order of about 80% . . .

"Wharves and Piers— . . .

The projects include 3,110 linear feet of wharf . . . ; extensions to oil wharves totalling 1,540 linear feet . . . ; the raising from low to high level of Laurier and Sutherland piers . . . ; a grain jetty, 700 feet in length at Elevator No. 1 for large lakers . . . ; a wharf 1,600 feet in length . . . to provide a terminal . . . ; a wharf 1,350 feet in length . . . to provide additional open wharf space for expanding bulk commodity traffic, including cement and petroleum products . . . ; a new wharf (at the site of one of the new elevators) providing a grain unloading berth, 800 feet in length, and 1,800 feet of wharf for grain loading and other purposes.

*"Transit Sheds—*The expenditures of \$5,000,000 for transit sheds cover three sheds, each about 500 feet long by 150 feet wide, two shed extensions, and a particularly large shed, 1,500 feet by 100 feet, to be used as a package freight terminal . . . In all, these sheds will provide an addition of about 589,000 square feet to the harbour's shed floor area . . . The net addition to shed floor space will be about 23% . . .

*"Dredging of Navigation Channels—*The expenditure of \$7,500,000 for dredging is required to provide approach channels to new wharves and wharf extensions and to enlarge the turning basin in the upper harbour to accommodate large lakers and passenger vessels.

*"Miscellaneous Items—*This expenditure of about \$500,000 covers additions to the electric power system required by the added facilities and other minor items."

At the port of Quebec works have been announced to provide for the construction of a grain elevator annex with grain gallery and marine towers for unloading grain, an oil wharf at Wolfe's Cove, the reconstruction of Berth 8 at Pointe-à-Carcy, and the reconditioning and widening of Berth No. 18.

At the port of Trois-Rivières a new transit shed will be constructed. In addition, private interests are installing additional elevator facilities.

CHAPTER V

The Canadian Merchant Fleet

Chapter III dealt mainly with the commodities entering the Canadian coasting trade. Brief reference was also made to the ships which engaged in it and in the waterborne traffic between Canada and the United States. In the present chapter, it is proposed to discuss more fully the composition of the Canadian merchant fleet. The term "Canadian merchant fleet" as used here covers all merchant vessels registered in Canada, engaging either in ocean or in coasting activities. Until 1934 registration was accomplished under the Merchant Shipping Acts of the United Kingdom. Since then, registry has been regulated by the Canada Shipping Act.

A brief history of the Canadian shipping industry up to the beginning of World War I is followed by the more recent history of the ocean-going and the coastal fleets in turn, giving the present composition of each.

A. Early History of the Canadian Shipping Industry

Canada's merchant fleet has had a long history, sometimes successful but more often troubled. From the earliest days of the French and British settlements wooden sailing ships were built for fishing and for use in local trade. They were also built on the Great Lakes to serve the fur trade as it developed, and later to serve the spreading settlements. The shipping industry of the colonies was limited at first to such coastal and inland services by the maritime policies of both the French and British regimes.

The merchant fleets of the colonies began to increase more rapidly when they were permitted to trade with foreign countries. By the middle of the 19th century numerous shipyards had been established in Quebec, New Brunswick, and Nova Scotia. While many of the larger ships were loaded with timber and exported to the United Kingdom along with their cargo, many others were retained by local owners and operated in deep-sea trades, including the lucrative trade with the West Indies. The peak of these shipping activities was reached about 1880, when the Canadian fleet numbered 7,377 vessels aggregating 1,311,218 net registered tons, with Canadian sailing ships known the world over.

Canada's many rivers and lakes afforded the easiest means of movement and transport throughout the lengthy period of exploration, fur trade, and settlement. A growing volume of merchandise was carried between Upper and Lower Canada first by canoes and then in turn by bateaux, schooners, Durham boats and steamers. As early as 1680 the Sulpician Order of

Montreal attempted a $11\frac{1}{2}$ -foot canal past the Lachine rapids, though it was not completed. By 1783 the Royal Engineers completed a series of $21\frac{1}{2}$ -foot canals at Lachine and Soulanges, capable of handling bateaux carrying about $31\frac{1}{2}$ tons, and in 1798 the Northwest Fur Company completed a $11\frac{1}{2}$ -foot canal at Sault Ste. Marie. The construction of ship canals began with the introduction of steam navigation. By 1850 there were 9-foot canals from Montreal to Lake Erie, enlarged to 14 feet by 1900, and in 1855 an $11\frac{1}{2}$ -foot canal was opened at Sault Ste. Marie on the U.S. side. Other developments included larger canals at Sault Ste. Marie, programmes of river dredging, and the opening of the present Welland Ship Canal in 1932.

Lake shipping progressed steadily with the development of Central Canada and the settlement of the American and Canadian west. While railway building after 1850 in eastern Canada brought a new form of competition that took away some of the traffic and lowered freight rates, it was the railways that opened up the western regions to settlement and brought a great new traffic to the Lakes, leading in turn to the introduction of larger and more efficient ships.

There were few ships in the Pacific coasting trade before 1850. Prior to this date the British Columbia trade was associated with the fur trade and the activities of the Hudson's Bay Company. Thereafter trade on the Pacific Coast increased with the discovery of gold on the Fraser River and later in the Klondike, and with the development of fishing, forest, and mining industries.

While wooden sailing ships remained strongly competitive for more than fifty years after the introduction of steam navigation, from about 1880 on they lost ground rapidly to steel steamers. Within the course of a single generation the Canadian ocean-going fleet declined from its greatest glory to near extinction, paralleling a like decline in the building of wooden ships, with almost all of the larger sailing vessels sold abroad by 1900. From then until 1914 there were few Canadian registered ships in overseas trade, principally those of William Thomson of Saint John, N.B., operating on the Atlantic, and the Dollar ships on the Pacific, while the Canadian Northern Railways operated fortnightly passenger liner services to Bristol, England. The Canadian Pacific Railway also owned a shipping enterprise, the Canadian Pacific Steamships Limited, but it was incorporated in Britain and its ocean-going ships sailed under United Kingdom flag, as they do today.

Table I below shows the number and net registered tonnages of vessels on Canadian registry at five-year intervals from 1875 to 1914. It is not possible to determine accurately the number employed in ocean-going services in each year, as the records do not include this detail, but it is apparent that the composition of the fleet was changing markedly. Thus while the number of vessels registered in 1900 was only 9% less than in 1880, the net registered tonnage decreased by 50% in the 20-year interval.

Again, from 1900 to 1914 the numbers increased by 30%, the net tonnage by 41%.

TABLE I
Number and Net Registered Tonnage of Steamers and Sailing Vessels
on Canadian Registry, as of December 31, 1875-1914¹

Year	Number of Vessels	Net Registered Tonnage
1875	6,952	1,205,565
1880	7,377	1,311,218
1885	7,315	1,231,856
1890	6,991	1,024,974
1895	7,262	825,776
1900	6,735	659,534
1905	7,904	669,825
1910	7,325	750,929
1914	8,772	932,421

¹List of Registered Vessels, Department of Marine and Fisheries, 1914, p. ix.

Read in the light of earlier records, the 1914 *List of Registered Vessels*, published by the Department of Marine and Fisheries, shows clearly the changes that had taken place. The list includes only 179 vessels of 1,000 gross tons or over. Of these, 15 can be identified as in ocean employment, 164 in coasting employment. The distribution of the coasting vessels was as follows:

Region	Number	Net Registered Tons
Atlantic Coast	28	31,155
Pacific Coast	19	18,776
Great Lakes (including St. Lawrence canals)	110	166,901
Other Inland Waters	7	5,733
Totals	164	222,565

The total number of vessels on Canadian registry at the end of 1914 was 8,772, aggregating 932,421 net registered tons. Table II below shows that almost 50% of this tonnage was from Ontario and British Columbia.

B. Vessels Employed in Ocean Trades

1. FIRST WORLD WAR TO 1939

The number of ocean-going vessels on Canadian registry remained few until after the end of World War I. The British Ministry of Shipping having placed orders in Canada in 1917, the Canadian Government initiated a shipbuilding programme early in the following year. The ships were intended for the carriage of war supplies. Though the war ended before the Gov-

TABLE II
Number and Tonnage of Steamers and Sailing Vessels on Canadian Registry
as of December 31, 1914¹

Region	Number of Vessels			Total Net Registered Tonnage
	Steamers	Sailing ²	Total	
Maritimes	695	2,604	3,299	200,603
Quebec	590	1,073	1,663	259,143
Ontario	1,492	608	2,100	314,660
British Columbia	1,173	418	1,591	147,192
Others	104	15	119	10,823
Total	4,054	4,718	8,772	932,421

¹From *List of Registered Vessels*, Department of Marine and Fisheries, 1914.

²Including unrigged craft.

ernment took any deliveries, the building programme was continued. The Canadian Government Merchant Marine was incorporated on December 30, 1918, to operate the ships on completion.

The Canadian Government ordered in this country's shipyards 63 vessels of several types, ranging from 2,800 to 10,500 deadweight tons, totalling 380,736 deadweight tons. All these ships were delivered by 1922. They were built during an inflationary period and consequently their capital cost of \$78,439,000 proved a serious handicap to their economical operation. The Canadian Government Merchant Marine Limited also acquired three vessels from the Department of Railways and Canals at a cost of \$1,223,000. The total deadweight tonnage of the 66 vessels was 391,202 tons and their capital cost amounted to \$79,662,000.

During the first two years, 1919 and 1920, owing to a great shipping demand, the Company's operations showed profits. However, by 1921 sharply reduced ocean freight rates wiped out these profits. Costs were relatively high, largely because of high interest and depreciation charges on the inflated capital cost. Moreover the vessels proved uneconomic in liner services in competition with more modern ones. Most of the services initiated were consequently discontinued after a few years of unprofitable operations or were taken over by other shipping companies. The private companies, using more suitable vessels, were able to benefit from trade routes pioneered by the government line.

In the light of mounting losses, the management of the Canadian Government Merchant Marine Limited recommended gradual disposal of its vessels, which process started in 1923 and was completed by 1936. Some of the ships were transferred to another public agency, the Canadian National (West Indies) Steamships Limited. The total capital and operating losses

to the Canadian Government amounted to more than \$82 million. Against the financial losses should be offset the service rendered to Canadian trade in the critical post-war period of shipping scarcity, and the fact that the objective was not to seek the most profitable employment but to develop new trade outlets.

The Canadian National (West Indies) Steamships Limited originated in 1929. Under the West Indies Trade Agreement of 1926, the Canadian Government undertook the responsibility for providing a shipping service to the participating colonies. The latter in turn agreed to contribute annual subsidies to the extent of £45,000. The Company operated eleven ships before the Second World War, having a total of 62,486 deadweight tons. At present it owns eight vessels, with a total deadweight capacity of 45,040 tons. On the whole the operations showed substantial deficits, except during the period 1941-48, when a portion of the Company's fleet was under charter to the Canadian Government for war services. The cost to the Government on operating account amounted to \$6,857,000 from 1929 to 1954.

In 1939 there were only 38 ocean-going Canadian registered vessels of 1,000 gross tons and over, aggregating 241,684 gross tons.¹ Aside from the Canadian National (West Indies) Steamships Limited, the Imperial Oil Company at that time had 10 deep-sea tankers operating under the Canadian flag, mostly carrying crude oil from the Caribbean area to refineries in Eastern Canada. At that time the Canadian Pacific had 2 of its trans-Pacific liners on Canadian registry.

II. SECOND WORLD WAR AND AFTER

The "Park" Ships

Following the outbreak of hostilities in 1939 the United Kingdom and the Canadian Governments again placed orders for the building of ocean-going merchant ships in Canada. The Park Steamship Company Limited was formed in April 1942, charged with the supervision of the management of ships retained on Canadian registry. These government-owned vessels were allocated to private shipping companies on a management-fee basis. The Government realized \$82 million in profit up to the end of 1945, and another \$40 million from them to March 31, 1940.

At the end of the war, the Government owned 258 dry-cargo vessels of 10,000 and 4,700 deadweight tons, mostly of the larger size. It also owned 20 tankers of 10,000 and 3,600 deadweight tons. The Park Steamship Company Limited was responsible for all the tankers and 150 of the dry-cargo vessels. The remainder were on loan or charter to the United Kingdom, except for one on loan to Australia.

¹*Second Report of the Canadian Maritime Commission, 1949, p. 18.*

In 1943 the Government appointed a Merchant Shipping Policy Committee to recommend a policy for Canada's merchant shipping in the post-war years. The Committee recommended that because shipping business is an international commercial operation it should in peacetime be owned and operated by private companies. The Government, acting on this recommendation, sold most of the war-built vessels on a deferred payment plan to private operators under the so-called "Park formula", an essential feature of which was the requirement that the vessels would be operated on Canadian registry.

The Canadian Maritime Commission

Another recommendation of the above-mentioned committee was the co-ordination of all government machinery dealing with merchant shipping. The Government decided that a new permanent body was required. The Canadian Maritime Commission Act was passed in July 1947 and the Commission established a few months later. The duties of the Commission are summarized in its first report dated July 24, 1948.

"The Canadian Maritime Commission was, therefore, established to co-ordinate the administration of shipping matters and recommend to the Government policies for preservation of the shipping and shipbuilding industries. The Canadian Maritime Commission Act provides that the Commission shall recommend to the Minister of Transport policies and measures which it considers necessary for the maintenance, manning and development of the Canadian merchant fleet and shipbuilding industry; administer steamship subventions voted by parliament; and assume any other powers, duties and functions required by the Minister of Transport or by the Governor in Council. The Act also authorizes the Commission to investigate and study Canadian requirements with respect to shipping services, the type, size and speed of ships required for these services, Canadian shipbuilding and ship repairing facilities and the costs of building ships in Canada and operating them under Canadian flag."²

According to its principal duties and powers as set out in Sections 6, 7 and 8 of the Act, the Canadian Maritime Commission has conducted investigations, made recommendations and performed administrative functions relating to shipping and shipbuilding activities. The history of shipbuilding activities and policies will be discussed in Chapter VIII.

The Replacement Plan—Escrow Fund

Recognizing the desirability of replacing some of the "Park" ships with others better suited to the particular requirements of certain trades and seeing the possibility of thereby securing orders for Canadian shipyards, the Government adopted early in 1948 what is called "the Replacement Plan". Under this plan the owners of "Park" vessels were permitted to sell them to foreign buyers in return for an undertaking to use the proceeds of the sale for the acquisition of new and modern ships to be operated on Canadian registry. These proceeds were to be placed in an escrow fund. If the owner

²*First Report of the Canadian Maritime Commission*, 1948, p. 5.

of such funds failed to use them within a prescribed period, he became liable to a monetary penalty. Permission to sell such ships was obtained through the Canadian Maritime Commission, which administered the escrow fund. In practice replacement was at first required to be from Canadian shipyards.

From the point of view of Canadian operators of deep-sea vessels the benefits of the Replacement Plan have been impaired by the requirement that construction and conversion be carried out in Canadian yards. A number of "Park" vessels were sold in the first years of the plan's operation and escrow funds accumulated in some volume, but orders for ocean-going replacements failed to materialize because of the high construction cost in Canada. In order to put the escrow funds to use, various modifications of the plan were adopted. Owners of escrow funds were permitted to assign them to others, such transfers usually involving a discount ranging from 5% to 10%. The use of escrow funds for the construction of Great Lakes and other coastal vessels was permitted for a time, although not more than one-third of the cost of such vessels was allowed to be met in this manner. For a time ocean-going tankers were also eligible. In 1953 the requirement of construction in Canadian yards was relaxed and a limited amount of funds was used for building or acquisition of ships in other countries.

Additional changes in the Replacement Plan were made in 1956, with renewed emphasis on modernizing the deep-sea merchant fleet. The flag covenant for all replacement ships now runs for only five years, if the vessel was built in Canada, and for ten years in other cases. If during the currency of the flag covenant the owner is permitted to sell his replacement ship off Canadian registry, he becomes obliged to redeposit in escrow funds only a specified portion of the funds that were used for its acquisition, whereas formerly he would have been required to deposit the entire net proceeds of disposition. Finally, escrow funds may again be used for acquiring tankers and may be used for making improvements to vessels in shipyards outside Canada.

On March 31, 1957, the net proceeds of sales deposited in escrow from the inception of the plan amounted to \$77,660,000. Of this, an amount of \$32,307,000 was used for purchase of new ocean-going vessels. About half of this sum was for tankers which remained on Canadian registry and the other half for dry-cargo vessels, the majority of which are now on United Kingdom registry under the Transfer Plan. Further details of the use of escrow funds will be found in Chapter VIII.

The Transfer Plan

Another measure to help Canadian operators of deep-sea vessels is known as the Transfer Plan, which was announced at the end of 1949. In October

of that year there were on Canadian registry 118 former "Park" vessels, owned and operated by private shipping companies, which were bound by the flag restriction clause of the "Park formula". In addition, there were 58 "Park" vessels on British registry under charter to the British Ministry of Transport. The latter were owned by Canadian companies and were to be returned to Canadian registry in 1950.

The owners of "Park" vessels were able to earn profits with them in the years from 1946 to 1948 because of the high freight rates then prevailing. These high rates were the result of the world shortage of shipping facilities combined with heavy demands for transportation service on account of military movements, relief and reconstruction needs.

During 1948 freight rates began to decline when international competition became keener as wartime shipping losses were gradually made up by new construction. Many foreign shippers were unable to pay freight charges in dollars, and Canadian operators were hampered by currency and import controls.

With the growing difficulties facing owners of Canadian registered vessels, it was feared that most of the 118 ships would simply be laid up by the end of 1949. To remedy this situation two measures were announced on December 9, 1949. The first concerned an arrangement for the transfer of an agreed number of ships to U.K. registry. By Order in Council P.C. 1333 of March 16, 1950, the original flag restriction clause was lifted with respect to these ships and many were transferred to U.K. registry. The second measure provided that those owners who kept their ships on Canadian registry might be financially assisted for a period of one year only. As a result 37 Canadian flag vessels received subsidies which amounted to \$2.7 million.

On December 31, 1956, Canadian vessels under the Transfer Plan (which permits transfer of other than Park vessels) were as follows:³

<i>Type</i>	<i>Number</i>	<i>Gross Tons</i>	<i>Deadweight Tons</i>
10,000-tonners	82	585,806	851,774
4,700-tonners	3	8,656	13,872
Ore carriers	2	42,210	62,000
Other dry-cargo vessels ..	3	16,672	21,358
	<u>90</u>	<u>653,344</u>	<u>949,004</u>

Under the terms of the Shipping Pool Agreement of the North Atlantic Treaty Organization the transferred ships are to be considered as a specific Canadian contribution to the shipping pool. Under the Transfer Plan, Canada reserves the right to transfer them back to Canadian registry.

³From *Canadian Merchant Fleet*, Canadian Maritime Commission, December 31, 1956 (reproduced as Appendix X of the present report).

Royal Commission on Coasting Trade

Composition of Fleet

Under the title of *List of Shipping*, the Department of Transport publishes a list of all vessels on Canadian registry. This document shows that on December 31, 1955, the last year available, they numbered 17,188 vessels. Compared with 1914 (Table II above), this represents an increase of almost 100%. The net tonnage increased from 932,421 to 1,682,949 tons, or 80%.

TABLE III
Number and Tonnage of Vessels on Canadian Registry, December 31, 1955¹

Tonnage Groups		No.	Tonnage	
			Gross	Net
Under 50 tons gross		13,658	172,628	141,058
Of 50 and under	100 tons gross	934	64,446	46,964
" 100 "	" 200 " "	898	130,049	99,747
" 200 "	" 300 " "	665	158,106	139,407
" 300 "	" 500 " "	340	128,477	102,539
" 500 "	" 1,000 " "	238	155,633	120,834
" 1,000 "	" 1,600 " "	83	103,501	69,929
" 1,600 "	" 2,000 " "	128	236,257	148,824
" 2,000 "	" 2,500 " "	76	169,255	115,480
" 2,500 "	" 3,000 " "	19	53,283	33,622
" 3,000 "	" 4,000 " "	42	145,699	108,437
" 4,000 "	" 6,000 " "	53	259,988	177,712
" 6,000 "	" 8,000 " "	23	159,750	104,338
" 8,000 "	" 10,000 " "	6	51,535	34,417
" 10,000 "	" 15,000 " "	19	225,296	155,458
" 15,000 "	" 20,000 " "	6	102,493	84,183
" 20,000 "	above	—	—	—
Totals		17,188	2,316,396	1,682,949

¹*List of Shipping*, Department of Transport, 1956. The above table indicates 455 vessels of 1,000 gross tons and over, while, for the same date, the list prepared by the Canadian Maritime Commission shows only 353 such vessels. The difference is accounted for by the fact that the latter list does not include scows and barges, harbour and inland ferries, icebreakers, floating dry docks, etc.

As shown in Table III, 13,658 vessels were under 50 gross tons, and the Commission is informed that most of them are fishing vessels. Among the vessels over 50 tons there are many scows and barges, schooners, fishing trawlers, etc. Unfortunately the *List of Shipping* has been of very limited use for the present inquiry, as no distinction is made between fishing and

merchant vessels or between vessels engaged in coasting and ocean trades. It is to be hoped that, in the years to come, more statistical analysis will accompany the *List of Shipping*.

In view of the difficulties just mentioned, this Commission has depended on lists prepared periodically by the Canadian Maritime Commission, covering merchant vessels of 1,000 gross tons and over. Unless otherwise stated the subsequent analysis will be confined to these vessels. This limitation has its shortcomings, but the Commission is of the opinion that they are not serious enough to impair the validity of its findings.

The Canadian Maritime Commission lists 358 vessels of 1,000 gross tons or over on Canadian registry as of December 31, 1956. The details are given in Appendix X. Of this total 26 are classed as ocean-going, by reason of their physical characteristics. However, 5 of these 26 vessels are employed mostly in coasting trades; they are owned by Clarke Steamship Company Limited and Dominion Shipping Company Limited. Details of the remaining 21 vessels engaged in ocean-going employment may be summarized as follows:

Type	Number	Gross Tons	Deadweight Tons
Dry-cargo ships	13	62,699	83,793
Tankers	8	96,252	148,915
	<u>21</u>	<u>158,951</u>	<u>232,708</u>

Nucleus of Shipping

Immediately following its establishment, the Canadian Maritime Commission undertook a detailed study of Canada's needs with respect to its ocean-going merchant fleet. In its Second Report it recommended that, for reasons of national security, the Canadian ocean-going fleet should not be less than 750,000 deadweight tons. This nucleus of ships in the Commission's own words, "... would be sufficient for the carriage of essential cargoes in the early stages of an emergency and to act as auxiliaries for Defence Services".⁴ It can be said that this requirement is being met at the present time by virtue of the fact that the Canadian-owned ships which are on U.K. registry under the Transfer Plan may be transferred again to Canadian registry should circumstances warrant, and that these ships would be part of Canada's contribution to the North Atlantic Treaty Organization's Shipping Pool. Moreover, as indicated above, there are 26 ships of 1,000 gross tons and over which are classed as ocean-going by the

⁴Second Report of the Canadian Maritime Commission, 1949, p. 53.

Canadian Maritime Commission. Thus, on December 31, 1956, the deep-sea fleet can be said to be of 1,219,007 deadweight tons made up as follows:

	<i>Deadweight Tons</i>
90 ocean-going vessels under the Transfer Plan	949,004
26 ocean-going vessels on Canadian registry	270,003
<u>116</u>	<u>1,219,007</u>

C. The Coasting Fleet

In contrast with the history of the ocean-going fleet, the growth of the coasting fleet has been more regular and closely related to the growth of the country. Moreover, in terms of number as well as tonnage, the coasting fleet by far exceeds in importance the ocean-going fleet on Canadian registry. On December 31, 1956, vessels of over 1,000 tons in the coasting fleet numbered 337, an aggregate of 1,102,212 gross tons and of 1,483,032 deadweight tons, distributed as shown in Table IV.

TABLE IV
Canadian Coasting Fleet of Vessels of 1,000 Gross Tons and Over
December 31, 1956¹

Region	Number	Gross Tons	Per cent of Gross Tonnage	Deadweight Tons
Great Lakes				
Lakers	76	505,787	46.0	771,187
Canallers	193	381,789	34.6	565,219
Sub-total	269	887,576	80.6	1,336,406
Atlantic Coast ²	42	132,618	12.0	113,344
Pacific Coast	26	82,018	7.4	33,282
Total	337	1,102,212	100.0	1,483,032

¹From Appendix X.

²Includes 5 vessels referred to on page 59.

In Chapter III it was stated that many smaller vessels engaged in the coasting trade of Canada, particularly on the Atlantic and Pacific coasts. Reference was made to the important part played by scows and barges on the Pacific Coast. In December of 1939 there were in the Canadian coasting trade 464 scows and barges of 200 registered tons and over, for a total of 218,941 net registered tons. By 1955, as shown in Table V below, the number had increased to 836 for a total net tonnage of 343,555.

The importance of scows and barges in the coasting trade of different regions can be illustrated by comparing Table V with Table IV. The comparison has its limitations, not so much because one table deals with net and the other with gross tons (the gross tonnage of the scows and barges would be much the same as the net) but because the one covers scows and barges from 200 net tons up and the other covers only the self-propelled merchant vessels of 1,000 gross tons and over. The fact that on the Pacific

TABLE V

Scows and Barges of 200 Net Tons and Over in the Canadian Coasting Trade
1939 and 1955¹

	1939		1955	
	Number	Net Registered Tons	Number	Net Registered Tons
Atlantic Coast	103	41,781	176	73,704
Pacific Coast	270	114,548	558	204,507
Great Lakes	82	59,358	84	59,487
Others	9	3,254	18	5,857
Total	464	218,941	836	343,555

¹From *List of Shipping*, Department of Transport.

Coast the given net tonnage of scows and barges is 252% of the gross tonnage of the larger vessels is nevertheless striking evidence of the preponderant importance of the mode of transport in these waters. In the eastern waters the tonnage of the given scows and barges is 56% of the tonnage of the larger vessels—still a significant ratio—while on the Great Lakes it is only 6½%.

I. THE GREAT LAKES

Lakers and canallers comprise some 80% of the Canadian coasting fleet. The principal types of lake vessels are bulk freighters, package freighters, oil tankers and barges. No data on the Great Lakes fleet as such were published before 1919. Since that year, however, statistical information concerning this fleet has been published in the annual reports of the Lake Carriers' Association, from which Table VI has been derived.

In 1920, as shown in Table VI, the Great Lakes fleet (U.S. and Canadian) consisted of 775 ships having a gross tonnage of 2,708,958 tons. Of this total, Canada owned 195 ships with a gross tonnage of 347,996 tons, i.e. 12.9%. At the end of 1956 the Canadian Great Lakes fleet had reached 940,325 gross tons, which was 27% of the combined tonnage of American and Canadian ships in this region, representing an increase of 170% in the Canadian tonnage as compared with 1920. This remarkable growth did not come about steadily but occurred during periods of expansion in the Canadian economy.

From 1920 to 1930, through new construction and extensive purchasing of second-hand ships from the United States, the Canadian tonnage more than doubled. This expansion reflects the general economic prosperity of the time and the growth of the industries with which these ships were associated. There was in particular a noticeable increase in grain, iron ore, and coal traffic.

TABLE VI
Canadian Great Lakes Fleet, 1920 to 1956¹

Year	Total U.S. and Canadian Fleets		Canadian Fleet		
	Number of Vessels	Gross Tonnage	Number of Vessels	Gross Tonnage Tons	% of Great Lakes Fleet
1920	775	2,708,959	195	347,996	12.9
1925	849	3,064,302	260	514,998	16.8
1930	921	3,395,811	319	747,733	21.8
1935	896	3,359,015	305	741,687	22.0
1940	817	3,238,916	293	737,896	22.8
1945	670	2,973,189	226	611,795	20.6
1950	709	3,076,130	257	716,180	23.2
1955	738	3,484,445	282	926,368	26.5
1956	742	3,486,277	288	940,323	27.0

¹From annual reports of Lake Carriers' Association. For 1920 and 1925, vessels of 300 gross tons and over, for 1930 those of 500 gross tons, for 1935 and thereafter 1,000 gross tons and over.

The great depression changed this state of affairs: during the 1930's the Canadian Great Lakes fleet instead of continuing to grow began to decline. During the Second World War the decrease was accentuated. Some 60 canallers were used for service elsewhere; after the war many of these ships returned to the Great Lakes region, though 21 of them were lost in war service.

Since 1945 the gross tonnage of the Canadian Great Lakes fleet has shown an increase of some 330,000 tons (or of 53%), which from 1945 to 1950 was mostly effected through the importation of second-hand bulk freighters from the United States. For example in 1947 eleven ships representing 24,422 gross tons were imported, including several large vessels having served some 35 years on the Lakes. In 1948, 20 vessels also were imported, having a gross tonnage of 27,956 tons and averaging 16 years of age. In 1950 Section 22 of the Canada Shipping Act was enacted, and since then the increase in the Great Lakes fleet has been mostly in vessels built in Canada. From 1951 to 1956 inclusive, 15 new lakers (all Canadian-built) and 16 new canallers (12 built in Canada and 4 in the United Kingdom) thus were added to the Canadian Great Lakes fleet. Moreover, 3 lakers, representing some 63,000 deadweight tons, and one canaller were in preparation or under construction in Canadian shipyards on March 31, 1957, while one tanker was being converted into a bulk freighter. It is understood that further orders have been placed since that date.

As shown in Chapter III, the Canadian Great Lakes fleet at present operating above the St. Lawrence canals comprises 76 vessels of 1,000 gross

tons and over.⁵ Their age distribution and the country in which they were constructed are given in Table VII. Sixty per cent of these vessels are over 45 years of age. Despite the natural protection of the St. Lawrence River bottleneck against the importation of vessels from overseas and the customs duty of 25% on the vessels imported from the United States, only 34 ships were built in Canada.⁶ Two of the passenger vessels were built in the United Kingdom and taken through the St. Lawrence canals in halves; one cargo vessel, the *Renvoyle*, was also built abroad but was lengthened after importation. Of the 39 vessels built in the United States, 38 are over 45 years old.

TABLE VII
Dates and Places of Construction of Vessels Operating above
the St. Lawrence Canals (Lakers) December 31, 1956¹

Date of Construction	Total	Number of Ships Constructed in		
		Canada	U.K.	U.S.A.
1890 or earlier	1	—	—	1
1891—1900	17	—	—	17
1901—1910	27	5	2	20
1911—1920	3	3	—	—
1921—1930	7	6	1	—
1931—1940	—	—	—	—
1941—1950	6	5	—	1
1951—1956	15	15	—	—
Total	76	34	3	39

¹From Appendix X. Vessels of 1,000 gross tons and over.

The fleet of vessels capable of navigating the St. Lawrence canals, as of December 31, 1956, included 193 vessels of 1,000 gross tons and over. Of the total, 59 were built in Canada, while of the remaining 134 vessels 112 were built in the United Kingdom, 19 in the U.S.A., and 3 in France. The canaller fleet as a whole is of more recent construction than the lakers, although 78% of the canallers are over 25 years old; 60% of them were built during the period 1921-1930. The dates and places of construction of the 193 Canadian canallers are shown in Table VIII.

II. EASTERN AND PACIFIC REGIONS

Table IV on page 60 showed that on December 31, 1956, 68 vessels of 1,000 gross tons and over were engaged in operations on the Atlantic (including the St. Lawrence River up to Montreal) and Pacific coasts, aggregating 214,636 gross tons and a deadweight carrying capacity of

⁵This figure does not include barges and ferries.

⁶Vessels built in the United States and United Kingdom, and later reconstructed or reconditioned in Canada are considered as U.S. and U.K. built vessels respectively.

TABLE VIII

Dates and Places of Construction of Vessels of the Great Lakes Fleet Capable of Traversing the St. Lawrence Canals (Canallers) December 31, 1956¹

Date of Construction	Total	Number of Ships Constructed in			
		Canada	U.K.	U.S.A.	France
1890 or earlier	4	—	—	4	—
1891—1900	3	—	1	2	—
1901—1910	14	1	8	5	—
1911—1920	15	5	5	3	2
1921—1930	115	25	87	2	1
1931—1940	13	3	7	3	—
1941—1950	13	13	—	—	—
1951—1956	16	12	4	—	—
Total	193	59	112	19	3

¹From Appendix X. Vessels of 1,000 gross tons and over.

146,626 tons. Sixty were passenger or dry-cargo vessels, 8 were tankers. Of the 42 vessels engaged in the coasting trade of the Atlantic Coast, 16 were built in Canada, 16 in the United Kingdom, 7 in the United States and 3 in Germany. Of the 26 ships engaged in the coasting trade of the Pacific Coast, 14 were built in the United Kingdom, 9 in Canada and 3 in the U.S.A.

Whereas the majority of the ships plying the Great Lakes are aging, those engaged in the coasting trade in the eastern and Pacific regions are relatively new; as shown by Table IX below, 42 out of the existing 68 vessels (more than 60%) have been built since 1941.

TABLE IX

Dates and Places of Construction of the Eastern and Pacific Coasting Trade Fleet December 31, 1956¹

Year of Build	Total	Number of Ships Constructed in			
		Canada	U.K.	U.S.A.	Germany
1901—1910	2	—	1	1	—
1911—1920	6	2	3	1	—
1921—1930	13	3	8	1	1
1931—1940	5	2	3	—	—
1941—1950	34	14	11	7	2
1951—1956	8	4	4	—	—
Total	68	25	30	10	3

¹From Appendix X. Vessels of 1,000 gross tons and over. Includes 5 vessels referred to on page 59.

CHAPTER VI

Prospects for Canadian Registered Shipping in the Coasting Trade

A. Introduction

Under existing legislation the Canadian coasting trade is open to vessels on the registries of all Commonwealth countries on the same terms as to vessels on Canadian registry. Non-Commonwealth vessels are permitted to participate on occasion, but as such participation is of comparatively small proportion in normal circumstances and was not an issue before the Commission, it may be ignored. In practice the other Commonwealth vessels participating are almost all registered in the United Kingdom, though some few are registered in the West Indies or Bermuda or elsewhere. At the present time the use of these vessels in the coasting trade is virtually confined to the Atlantic seaboard, as was shown in Chapter III. Many of them are employed by Canadian operators on a time charter basis; some are owned by Canadian interests though registered abroad, under the Transfer Plan or otherwise; a small minority are in the direct employ of overseas operators.

The cost of operating a vessel on United Kingdom registry is substantially less than the cost of operating a similar vessel registered in Canada. A round figure of \$100,000 a year was suggested by shipowners as the difference for a typical ocean-going vessel. The Commission asked Saguenay Terminals Limited to give its actual cost experience with its former Park vessels of 10,000 deadweight tons for a year prior to and a year after their transfer to United Kingdom registry, and asked the Canadian Shipowners Association¹ likewise for the cost experience of its members with these standardized wartime vessels. The data and the explanatory comment provided thereon are given in Appendix XI to this report. In all cases the cost of fuel and the depreciation charge are excluded. Fuel is a large item of operating cost, but the amount varies with the nature of employment rather than with the country of registry. A comparison of depreciation charges likewise would be beside the point because of differences in vessel age, condition, and cost to the reporting owner, as well as differences in accounting practices, whereas it may be assumed that in general a Canadian operator can acquire a vessel for the same capital cost as a U.K. operator.

The Saguenay Terminals statement shows that the daily cost for seven vessels on Canadian registry ranged from \$596 to \$932, while for the

¹Described in its brief as an association of 26 companies owning 80 ocean-going cargo vessels of 509,000 gross tons. A high proportion of the vessels are on United Kingdom registry under the Transfer Plan.

same vessels after transfer to United Kingdom registry the range was from \$534 to \$744. Experience with one vessel was exceptional in that the cost was less before transfer than after. The company advised that maintenance expense was lower than usual in the first period and higher than usual in the second. If this non-typical instance is excluded, the average daily cost of six vessels on Canadian registry was \$803, on United Kingdom registry \$593, a difference of \$210 a day. Since a vessel would commonly lose 30 to 35 days of employment per year for repairs and overhaul, including the time proceeding to and from a repair port, the difference would amount to about \$69,000 or more for a 330-day operating year. Saguenay Terminals stated that the normal costs for a United Kingdom operator in other than North American waters would be lower still, and gave estimates of such costs for each of the vessels; the average for the six was \$515 a day. The latter figure is less than the cost on Canadian registry by \$288 a day, or about \$95,000 for a 330-day year.

The vessels covered by the evidence of the Canadian Shipowners Association were employed in a variety of deep-sea trades. The average daily cost was \$860 on Canadian registry, \$565.50 after transfer to United Kingdom registry. This would put Canadian costs higher than United Kingdom costs by \$294.50 a day or about \$97,000 for a 330-day year.

The Canadian Maritime Commission, dealing with the same type of vessel and likewise excluding fuel and depreciation, made cost comparisons in its second, fifth and sixth reports. The latest covered costs in 1952 and was much quoted during the course of the inquiry. It estimated an average cost of \$816 a day on Canadian registry, \$543.50 a day on United Kingdom registry, a difference of \$272.50 a day or about \$90,000 for a 330-day year. Table I below shows the breakdown of the daily cost figures and compares it with the similar detail reported by the Shipowners Association.

Corporate shipowners subject to United Kingdom income and profits taxes have another advantage over their Canadian counterparts, associated with the acquisition of new (not second-hand) ships, amounting in effect to a substantial remission of taxes on vessel earnings. The owner may claim as a deduction from his profit for tax purposes an "investment allowance" which when initiated in 1954 was 20% and now is 40% of the cost of the ship, in addition to the normal depreciation allowance. Unlike depreciation, the investment allowance may be claimed as rapidly as revenues permit. Thus a small-scale operator may escape income and profits taxes altogether for some years, while a large-scale operator with earnings from the new ship added to other taxable income may be able to claim the full tax remission in the first year. One result is that a U.K. operator will realize a greater net profit (after taxes) out of a given margin between costs and revenues. Since the U.K. operator also has the advantage in operating costs, the combined effect of the two factors is to enable him to earn

TABLE I
Estimated Daily Operating Costs for 10,000-ton Deadweight Standard
War-Built Vessels
(excluding fuel and depreciation)

	Canadian Maritime Commission ¹	Canadian Shipowners Association ²
<i>Canadian Registry</i>	\$	\$
Wages ³	316.50	372.00
Subsistence	66.00	65.00
Stores and Supplies	66.50	50.00
Repairs and Maintenance ⁴	160.00	160.00
Insurance	129.50	133.00
Sundries	15.50	15.00
Management	62.00	65.00
Total	816.00	860.00
<i>United Kingdom Registry</i>	\$	\$
Wages ³	140.50	165.50
Subsistence	48.00	45.00
Stores and Supplies	52.50	45.00
Repairs and Maintenance ⁴	123.50	140.00
Insurance	119.00	90.00
Sundries	14.00	15.00
Management	46.00	65.00
Total	543.50	565.50

¹Sixth Report, p. 9.

²From Appendix XI.

³Includes allowances, overtime, etc.

⁴Includes allowance for survey.

a satisfactory profit at lower levels of vessel earnings than would be considered minimal by a Canadian operator. Moreover, in periods when vessel earnings are comparatively high the U.K. operator will recover his original investment at a much faster rate and so will be in a better position to withstand later periods of depressed revenues.

The investment allowance was first granted in 1954 at the rate of 20%. It applied generally over a wide field of industry to capital expenditure incurred on the provision of new assets, and may be regarded as a development in a taxation policy initiated in 1945, designed to encourage re-equipment and modernization of productive capacity. The investment allowances were withdrawn in 1956, with certain limited exceptions, of which ships were one. The allowance for expenditure on ships incurred after April 9, 1957, was increased to 40%, under provisions of the Finance Act assented to July 31, 1957. The increase in the investment allowance is for ships only, and was proposed because of the special position of the shipping industry "... faced with severe competition in a world market, often from ships sailing under flags of convenience with small tax liabilities. It finds it increasingly difficult to build up finance for the replacement of its ships when they become obsolete."²

²From the budget address by the Chancellor of the Exchequer, House of Commons Parliamentary Debates, 9th April, 1957.

Large and important as may be the general advantage of the vessel on United Kingdom registry (or on other Commonwealth registry), Canadian registered vessels are nevertheless used to carry a major portion of coasting tonnage even on the eastern seaboard, where there is most ready access to vessels operated from a United Kingdom base. This must mean that there are a number of trades in which the advantage of the overseas vessel is reduced or offset by other considerations. The present chapter therefore comprises a review of the coasting trade in each of the three major areas — the eastern seaboard, the Pacific Coast, and the Great Lakes — appraising the future prospects for the employment of vessels on Canadian registry.

B. East Coast, Gulf and St. Lawrence River Below Montreal

GENERAL CARGO SERVICES

The main general cargo services of Eastern Canada were described in Chapter III. Five of them employ exclusively vessels on United Kingdom registry: the Furness Warren and Furness Red Cross lines, Constantine Canadian Services, Newfoundland-Great Lakes, and the intercoastal service provided by Saguenay Terminals. The first three are the only regular services in the coasting trade provided directly by United Kingdom firms. All the other services are provided by Canadian firms.

The Furness Warren and Furness Red Cross services between Newfoundland and the mainland are each a part of a larger international service long antedating the union with Canada that made them coasting trade. In like manner the intercoastal service provided by Saguenay Terminals is integrated with international trade, the vessels calling at a number of foreign ports in the course of a voyage between the eastern and western coasts of Canada. All three are examples of a type of service in which Canadian registered vessels have been found generally unprofitable.

The Clarke Steamship Company Limited and the associated companies under the same management charter some United Kingdom tonnage as well as Canadian to supplement their own vessels registered in Canada. All the other services use vessels on Canadian registry almost exclusively, including not only Newfoundland-Canada, Blue Peter, Anticosti Shipping, Canada Steamship Lines, and Ferguson Industries but also the various C.N.R. services to Newfoundland and to Prince Edward Island, the C.P.R. service across the Bay of Fundy, and all the various schooner services. The Clarke group of companies advocated restriction of the coasting trade to vessels registered in Canada, although they are now using some United Kingdom vessels. Newfoundland-Canada and Anticosti Shipping opposed restriction and Blue Peter made no representations; all three use only small Canadian vessels.

All witnesses were in general agreement that the employment of vessels on United Kingdom registry offered a cost advantage, but the evidence was

more obscure as to why so many operators continued to use Canadian tonnage. The evidence nevertheless suggests that several factors may be involved, including the length of the season, the most suitable size and type of vessel, the availability of suitable vessels and the specific terms on which they might be made available. Thus the two services that do not use Canadian tonnage are seasonal services, linking Great Lakes and Newfoundland ports, a circumstance in which the cost advantage of a United Kingdom vessel might be expected to be greatest. Moreover, suitable vessels were available or were made available. Of the three being chartered by Newfoundland-Great Lakes, one was designed and built for the route, and it was stated that the two vessels used by Constantine were altered "at considerable expense" to make them suitable. In contrast, a considerable proportion of Canadian vessels are employed the year round in the coasting trade, as in the case of the Newfoundland-Canada services between Halifax and St. John's, and the C.N.R. and C.P.R. services. The Clarke group also maintain three of their vessels in Canadian operations during the winter, with the Newfoundland service linked to Halifax, N.S., and Saint John, N.B., instead of Montreal and Quebec, and with a reduced service to the north shore of the Gulf of St. Lawrence. In these circumstances it might be expected that the cost differential would be greatly reduced if not eliminated, in view of the practical difficulties of basing both vessel and crew in the United Kingdom. This will suffice to illustrate the considerations, without an attempt to evaluate the various factors in every instance, which indeed might be found to change with time.

The Commission does not advance a precise prediction as to the future employment of Canadian registered shipping in general cargo services in these waters, should the coasting trade remain open to vessels registered in other parts of the Commonwealth. Nevertheless it suggests that the present pattern might prove to have some continuing validity. It is to be expected that Canadian operators would continue to predominate in the field, because of the advantage of management from a Canadian base, and because general cargo liner services are costly to establish and slow to develop into a paying proposition. Without doubt the operators would keep under continuous review the relative advantages of using Canadian or United Kingdom tonnage and might change their policy accordingly, but on the whole it appears that there would remain substantial scope for the employment of shipping on Canadian registry.

BULK CARGO

The major bulk cargoes moving in the coasting trade of these waters are petroleum oils and products, pulpwood, coal and coke, and iron ore, it about that order.³ Other important bulk cargoes include non-ferrous

³See Table II, Chapter III.

metallic ores (largely ilmenite), limestone, gypsum and cement. In almost all of these trades a high proportion of the movement is in vessels operated by the producing or consuming firm concerned or by an affiliated shipping company. In some cases a contract is made with an independent ship operator for the movement of agreed quantities within a given time. Single voyage charters are not uncommon but are comparatively of lesser importance. At the present time no U.K. operator is participating on a continuing basis in any of these movements, except for "spot" cargoes carried more or less incidentally in the course of other vessel employment. The Canadian operators, including the independents, may own or charter the vessels they require; it is they who employ most of the United Kingdom tonnage that is used in these waters.

The largest single employer of vessels in the coasting trade of Eastern Canada is the Dominion Steel and Coal Corporation Limited (DOSCO). A subsidiary, Dominion Shipping Company Limited, owns three ocean-going vessels on Canadian registry. These three vessels carry most of the iron ore and limestone from Newfoundland mines and quarries for the Sydney furnaces. They also carry some cargoes of coal from Sydney, but the coal movement employs more than twenty chartered vessels. While some of these are on Canadian registry, 75% to 80% of the Cape Breton coal trade is carried in vessels on United Kingdom registry.

The movement of iron ore from Sept-Iles for transshipment at Contrecoeur is a recent development in coasting trade and is due to end with the opening of the Seaway, when large vessels will be able to carry the ore into Great Lakes ports. The volume of the latter movement and its rate of increase will depend on the shipping costs including seaway tolls, for Sept-Iles ore is also being shipped to U.S. seaboard ports for forwarding to the inland market, and that route may continue to be competitive. In any event the shipments will be mostly in international trade, although some comparatively small volume may be shipped to Canadian destinations. The present coasting movement to Contrecoeur is in vessels registered in the United Kingdom and Bermuda, of which at least one has been designed for possible use on seaway routes. When the Seaway is opened, however, lake-type vessels may be expected to compete for the new international carriage, a subject which is considered hereafter.

Petroleum products, pulpwood and cement in bulk are carried almost exclusively in vessels on Canadian registry. Gypsum may provide return cargo for the cement carrier or other Canadian vessels, but a large part is carried in United Kingdom bottoms. Ilmenite is moved from Havre St-Pierre to Sorel by a contract carrier using a U.K. vessel.

It will be seen that the use of United Kingdom and Canadian registered shipping in the bulk trades appears to follow a pattern analogous to that in the general cargo services. While it would appear easier for a United

Kingdom operator to compete for contracts to move bulk cargo than to compete in the other liner services, no instance has come to the attention of the Commission in which a U.K. operator has obtained such a contract in the coasting trade in recent years, even in years when ocean trades elsewhere were depressed. The use of United Kingdom tonnage is mostly by Canadian operating firms, as in the case of general cargo services, and appears to be most attractive where the movement to be effected is substantial and where the most common type of ocean carrier is suitable. It appears again that there are numerous trades in which the advantage lies with vessels registered in Canada, presumably for reasons similar to those suggested above.

The Commission therefore believes that not only in general cargo services but also in the bulk trades in these waters there would remain somewhat the same division of use as now obtains between vessels on Canadian and on other Commonwealth registries. It is to be noted, however, that most of the recent increases in coasting trade tonnage (e.g. ilmenite, iron ore) have been in trades served largely by U.K. vessels, and that this may continue to be the case with subsequent increases. Moreover, the recent increase in the U.K. investment allowance may in time make it more advantageous to use U.K. vessels in employments in which heretofore the choice of vessel was a matter of indifference. It nevertheless appears that there would remain a very considerable scope for the employment of vessels on Canadian registry and that such employment may continue to increase, though probably at a comparatively slow rate.

C. The West Coast

Participation of other Commonwealth vessels in the coasting trade of this region is of negligible importance at present and is likely to remain so. The coasting trades are almost completely separate from the international trades that might attract Commonwealth vessels, with the exception of the intercoastal trade dealt with above. The biggest part of the tonnage is carried by towed scows or barges, and it would appear impractical to make use of such vessels and crews based elsewhere than in Canada. Competition for this or other traffic by self-propelled vessels on Commonwealth registry appears little more attractive, if only because of the distance from a suitable base in the sterling area and the fact that cargo movements continue the year round.

Canadian operators have some scows or barges (but not tugs, as far as is known) on United Kingdom registry. There is no difference in operating cost. The reason found was that the vessel itself or the hull from which it was converted had been acquired abroad at an attractive price, but had been refused Canadian registry under Section 22 of the Canada Shipping

Act. In the cases brought to the attention of the Commission the necessary conversion or refit had been done in a Canadian yard. Section 22 is discussed in Chapter XI.

The prospects for Canadian registered shipping on the Pacific Coast are excellent as compared with other Commonwealth shipping. The question is rather the future role of self-propelled vessels in competition with scows and barges, and the latter in competition with log rafting. However, these are not matters on which the Commission is called upon to report.

D. The Great Lakes

I. INTRODUCTION

Construction of the St. Lawrence Seaway brings a wide range of uncertainties to ship operators on the Great Lakes and St. Lawrence River. Out of these uncertainties has arisen fear that Canadian registered shipping will be eliminated from the inland bulk trades, a fear that was a major factor in instituting the present inquiry.

The traffic at stake is not only the Canadian coasting trade but also the even greater volume of transborder trade within the Great Lakes and between the Great Lakes and the Atlantic seaboard region. The tonnages carried in these several trades in 1955 were shown in Chapter III to be as follows:

	<i>Million Short Tons</i>	
<i>Coasting Trade:</i>		
Within the Great Lakes	10.3	
Between the Great Lakes and eastern regions	6.8	17.1
	<hr/>	
<i>Transborder Trade:</i>		
Within the Great Lakes	26.1	
Between the Great Lakes and eastern regions	3.7	29.8
	<hr/>	<hr/>
		46.9

The total of about 47 million tons is large by any standard.

The coasting cargoes of Canadian grain averaged 11.5 million tons for the four years 1952 to 1955, 7.7 million carried from the Lakehead to ports above Montreal and 3.8 million carried from lake ports to Montreal or beyond. The latter figure is largely accounted for by the reshipment of grain in canallers at the various transfer ports. If this grain had been carried from the Lakehead to the downriver ports without transshipment it is apparent that the total would have approximated 7.7 million tons, one-third less than the actual total of 11.5 million. Transshipment within the course of a coasting movement is expected to cease soon after the Seaway is opened, hence a decrease in the total of coasting cargoes is to be expected simply because much of the grain will be moved the full distance in one

trip rather than two shorter trips, quite aside from any more significant change in volume that might be measured in terms say of ton-miles of grain carriage in coasting trade.

The limitations of the existing canals have shaped the development of traffic patterns and the composition of the present lake fleet. The grain trade is the notable example. For export or other through movement, grain is transhipped to the smaller canallers at various points from Port Colborne to Prescott, or re-railed at Georgian Bay ports or other transfer points. One result is that most operators moving grain from the Lakehead to Montreal and other St. Lawrence ports command a fleet that includes a number of canallers to complement the upper lakers.

Completion of the St. Lawrence Seaway will bring new opportunities for transportation economies and considerable new traffic as well. For the lakes operator it will mean a two-fold adjustment to major changes in traffic patterns and to a new and formidable source of competition. Thus it will become possible to move grain from the Lakehead to tidewater and iron ore from Sept-Iles to Lake Erie ports in large vessels without transshipment. Ore and grain may be carried with advantage in an extended voyage of one ship, or the ore carrier may load a return cargo of coal at a Lake Erie port. On the other hand typical ocean vessels may load grain and other export cargoes at the inland ports, carrying imports on the inward voyage, so reducing the present volume of coasting trade. If they are British vessels they may participate in the Canadian coasting trade. Other outside vessels may be employed wholly in the inland trades for the season.

Canadian operators of lakes vessels fear the new competition in both the coasting and the transborder trades, because of the lower operating costs of other Commonwealth and foreign vessels. Operation is seasonal and the bulk movements are large, circumstances in which the use of United Kingdom tonnage in the coasting trade has been found advantageous. The upper lakers are of specialized design and the newer ones have larger capacity than general purpose ocean vessels, factors which may offset the latter's operating cost advantage. However, there are already on Commonwealth registries specialized vessels that can carry as much on seaway draughts as a good sized laker, and still bigger ones might be built. The evaluation of the prospects for Canadian registered shipping accordingly reduces largely to a question of the most suitable types and sizes of ocean-going vessels that might be used or might be designed for the major seaway trades, and how they would perform in comparison with the most efficient Canadian lakers. Such comparisons will give some indication of the advantage that might attach to a direct overseas movement to or from the Great Lakes as opposed to transshipment at a St. Lawrence River port, as well as the competitive position of various types of vessel with respect to the inland movements.

II. GENERAL CARGO

General cargo or package freight trades within the Great Lakes have not been isolated by the St. Lawrence canals to the same degree as the bulk trades. Small ocean vessels are not necessarily outclassed; some have traded into the Lakes in the past, and since the war the number of regular services to overseas points has continued to increase. By the 1956 season there were fourteen lines operating, including two from the United Kingdom. So far, however, these services have carried only a negligible volume of cargo between Canadian and U.S. ports or between Canadian ports.

Competition for coasting trade in general cargo is limited by the licensing requirements of the Transport Act, which apply to the carriage of goods other than goods in bulk between Canadian ports west of the Island of Orleans (near Quebec) in vessels over 500 gross tons. "Goods in bulk" is defined⁴ to include flour and mill feeds in bulk or in sacks, ore concentrates in sacks, pulpwood and woodpulp in bales, waste paper loaded as a full ship's cargo, iron and steel scrap, and pig iron. These commodities could be carried without a licence by any vessel otherwise qualified to engage in coasting trade. The practical effect of the requirement is nevertheless an extensive regulation of general cargo services.

One of the purposes of regulation is to prevent destructive competition, and accordingly the statute provides as a condition of granting a licence that the Board of Transport Commissioners be satisfied "that the proposed service is and will be required by the present and future public convenience and necessity". The difficulty of establishing such a proposition must be recorded as providing an established carrier with a very substantial degree of protection from competition, though not necessarily complete protection.

Five operators, all Canadian firms, held licences under the Transport Act for specified services in the Great Lakes-St. Lawrence region during 1956: Canada Steamship Lines Limited, Northwest Steamships Limited, Yank-canuck Steamships Limited, Canadian Pacific Railway Company Limited, and Cayuga Navigation Company Limited. The major package freight operator is Canada Steamships (CSL), with twenty-one package freighters registered in Canada, of which seventeen are of smaller size and four are confined to lake operation. Most of the business is in the coasting trade. Northwest Steamships had two vessels licensed for extensive service, Yank-canuck had two licensed to carry iron and steel products including bars, billets, rod, strip, or skelp, and the C.P.R. its two lake passenger vessels, while the Cayuga vessel carries only a limited amount of cargo in addition to passengers.

The testimony of CSL officials indicated that they have much less fear of United Kingdom competition in package freight than in the bulk trades, quite aside from the question of a licence to operate. Uncertainty was

⁴R.S.C. 1952, c. 271, s. 2(1)(d).

expressed with respect to that part of the business consisting of import and export shipments received from or delivered to ocean carriers at Montreal and elsewhere, which might be carried farther through Canadian waters by the ocean vessel. The president of the company nevertheless stated: "The truth about the package freight in this, that a large part of the income dollar must be spent for stevedoring. Therefore, all ships travelling in our coast, on that factor of the cost, would have the same expense as we have. The advantage they would have is entirely afloat".

Table II below is a statement provided by Canada Steamship Lines showing the tonnage of package freight carried in the years 1950 to 1954, and the amount of the tonnage that consisted of goods in the course of export or import. It will be noted that the total tonnage shows a rising trend, the export-import tonnage a falling trend; the latter as a percentage of the total fell from 16.1% in 1950 to 11.8 in 1953, and in 1954 was 12.5%. Perhaps the significance is less in the decline in export-import volume than in the fact that it has remained so high, in view of the many overseas services that might have carried it without transshipment.

TABLE II
**Package Freight Tonnage Carried by Canada Steamship Lines Ltd.
1950 to 1954¹**

Year	Total Tonnage	Export/Import Tonnage	Percentage Export/Import to Total Tonnage
1950	775,274	124,589	16.1
1951	858,210	130,629	15.2
1952	934,361	117,174	12.5
1953	961,806	113,889	11.8
1954	956,565	119,980	12.5

¹From Exhibit 183.

The advantage of the ocean vessel "afloat" may be more than a matter of lower operating costs per day. It may stem rather from the fact that the vessel would touch at more than one Canadian port in the course of an international voyage, in which case coasting cargo could be carried between these ports at little more cost than that of handling plus any additional ship time spent loading and unloading. With respect to stevedoring, on the other hand, the evidence was that the Canadian operator has lower costs because shore and loading operations are highly mechanized; cargo is placed on pallets which are handled with fork trucks, the vessels have side ports to admit the trucks and elevators to lower them to the hold. By contrast it was stated that in general ocean vessels are loaded and unloaded through top hatches with slings, a slower and more costly operation involving more manual labour.

The Commission is satisfied that such factors constitute reasonable grounds for a lesser concern over possible competition from United Kingdom operators. Further, Canadian operators would appear to be under little inducement to charter United Kingdom tonnage for the service.

III. BULK CARGO

1. VESSEL SIZE AND DESIGN

The fundamental question at issue is whether Canadian registered lakers would be able to recover their operating and capital costs, together with a profit or return on the investment sufficient to ensure their continuance in the trade, at a charge per ton or per bushel of cargo no higher than would be required for a vessel registered in the United Kingdom or other part of the Commonwealth. Related questions arise as to the seaworthiness of the lakers in the Gulf of St. Lawrence as far as Sept-Iles and perhaps as far as Newfoundland, the feasibility of getting them across the Atlantic if built abroad at reduced cost, and the future role of the smaller canallers. There are also questions as to the adaptability of ocean vessel design to seaway limitations, their comparative construction and operating costs, their carrying capacity on the inland waters, and their prospects for profitable winter employment.

The evidence is that most of the canaller vessels will not be replaced on retirement by similar vessels after completion of the Seaway and the provision of appropriate shore facilities for larger vessels. Thus the president of Colonial Steamships Limited stated that it operates 23 canallers and expects to scrap eighty per cent of them. Nevertheless, vessels of this type were still being constructed in 1955 and 1956. One explanation offered was that there would be a continuing use for them—especially “good” canallers with larger capacity than the older ones—carrying bulk cargoes in smaller lots, and serving harbours where bigger ships could not go.

A laker built in the United Kingdom would require a clearance certificate from the Ministry of Transport there for the delivery voyage. For insurance, the underwriters must be satisfied as to the risk; they usually are guided by the opinions of recognized “classification societies”, which have arisen as independent authorities on ship design, construction, and service standards. Certification and insurance are hypothetical questions at the present time, but letters have been filed giving the tentative opinions of two classification societies, Lloyd’s Register of Shipping⁵ and the American Bureau of Shipping.⁶ Without having made a definitive study of a specific vessel, each society expresses the opinion that the delivery voyage could be made safely in ballast.

The seaworthiness of vessels in Canadian waters is a matter for certification by the Steamship Inspection Board, and insurance is again a weighty

⁵Exhibit 74.

⁶Exhibit 73.

practical consideration. Two major operators have testified that they are satisfied that most of their upper lakers will meet the requirements for trading to Sept-Iles, the shipping point for Quebec-Labrador iron ore.

It has been suggested that trades to the south or east coast of Newfoundland might develop in which inland vessels might be used to advantage. The above-mentioned letter from Lloyd's Register states that ships in such service would be required to be, to all intents and purposes, up to full sea-going standard. Whether the requirements for service to Newfoundland's west coast would be as onerous is uncertain. It is possible that some existing lakers might serve with little or no modification, should prospects for profitable employment so warrant.

The most comprehensive evidence on the prospective competition between Canadian and United Kingdom vessels in seaway trades was submitted by CSL.⁷ The *Thunder Bay*, one of its large lakers built and registered in Canada, was compared with an identical vessel assumed to have been built and registered in the United Kingdom, and with five ocean vessels built and registered in the United Kingdom. The ocean vessels ranged from a modern tramp type to specialized bulk carriers, the latter with seaway capacities of a little over 17,000 long tons of cargo. The vessels were compared in two operations, assuming return in ballast in each case: the movement of wheat from the Lakehead to Kingston, an operation with which the company is long experienced, and a movement of iron ore from Sept-Iles to Hamilton, a hypothetical case at present but a type of operation with which it is thoroughly familiar. The comparisons were set out in complete detail with an outline of specifications for each ship, estimated capacity, voyage time, vessel construction and operating costs, costs per ton, and (in the case of wheat) profit before taxes at a revenue of seven cents a bushel as then current. Subsequently the company submitted comparable data respecting its newest and largest laker, the *T. R. McLagan*.⁸

The seven vessels compared in the CSL submission were identified by the letters A to G for ready reference, as follows, all except A being built and registered in the United Kingdom:

- A—The existing laker *Thunder Bay*, built and registered in Canada.
 - B—An identical laker built and registered in the United Kingdom.
 - C—A standard modern tramp capable of carrying 12,600 long tons at ocean draught.
 - D—An enlarged version of C in all proportions, conventional in design but less common in size; that is, it is in less demand for ocean service.
 - E—A further enlargement of C with length and beam greater in proportion to depth of hull, to afford greater capacity at seaway draughts.
- These proportions and its size make it a specialized design. While a

⁷Exhibits 200, 201, 202.

⁸Exhibits 222, 254.

number of vessels of this general type and size exist they are not in great demand at present.

F—The same overall dimensions as E, designed as a dry-cargo bulk carrier for ocean or seaway service.

G—The same overall dimensions as E, designed for use alternatively as a tanker or an ore carrier for ocean or seaway service.

The data on the *T. R. McLagan* were used to cover three differing assumptions as to build and registry, the corresponding vessels identified as H, I, and J, as follows:

H—The existing laker *T. R. McLagan*, built and registered in Canada.

I—An identical laker built and registered in the United Kingdom.

J—An identical laker built in the United Kingdom, registered in Canada.

Starting with a published design for a tramp ship for vessel C, the designs for vessels D, E, F, and G were evolved by Richard Lowery, a qualified naval architect of repute, vice-president of CSL and president of Davie Shipbuilding Limited. It was said that many specialized ocean carriers exist of the general types and size of F and G and that the two designs would not be considered unusual.

The submission indicated that vessel F, the dry-cargo bulk carrier, would be expected to offer the most serious competition of the five ocean vessels. The other four would be comparatively less suitable either for seaway or for ocean service or for both, although considered practical.

Other relevant and authoritative evidence included a submission made by the Canadian Shipowners Association⁹ giving an equally thorough analysis of the probable performance of two ocean vessels in typical seaway operations. One was a common ocean type of 9,000 tons deadweight capacity, the other a bulk carrier capable of loading 15,000 long tons at seaway draughts—each a little smaller than the comparable vessel put forward by CSL. The operations considered were wheat from the head of the Lakes to Kingston, iron ore from Sept-Iles to Ashtabula, and coal from Ashtabula to Montreal. The estimates of performance and costs were given in exhaustive detail; pertinent extracts are reproduced as Appendix XII.

The Commission is particularly appreciative of the time and effort that went into the preparation of these submissions by Canada Steamship Lines and by the Canadian Shipowners Association. The greatest importance is attached to them, the one reflecting operating experience with lake vessels in the inland trades, the other ocean experience with vessels on United Kingdom registry. The work of other witnesses on this subject has been most helpful also, all of which has greatly facilitated the course of the inquiry.

The above material together with other relevant evidence was submitted to a well-known firm of naval architects and marine surveyors, Messrs.

⁹Exhibits 248, 252.

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Milne, Gilmore & German of Montreal, with a request for their opinion as to the general practicability and technical acceptability of the various vessels described by CSL, including costs of construction and operation, capacities, and prospects for winter employment. The Commission directed that the comparison include the *T. R. McLagan*, vessel H, taken as typical of the most efficient lakers, since the ocean vessels presumably include the most efficient competitors that might be built. It also directed that the comparison be extended to an identical vessel built and registered in the United Kingdom (vessel I) and one built in the United Kingdom and registered in Canada (vessel J). The naval architects' appraisal is reproduced as Appendix XIII to this report. The result is a substantial confirmation of the validity of the original comparisons, though significant differences in detail are to be found.

Table III below gives the capacities of the ten vessels reviewed and the costs per ton for the given wheat and ore movements, as derived in the consulting naval architects' report on the CSL submission. The following two sections will examine the more important assumptions and component costs

TABLE III
Estimated Capacities and Unit Costs of Existing and Projected Vessels in
Seaway Trades, as Derived in Appendix XIII.

Vessel	Description	Country of Build	Cargo Capacity			Costs per ton	
			Ocean	Seaway		Wheat ¹	Iron Ore ²
				Wheat	Iron Ore		
			long	tons	\$	\$	
<i>Lakers Registered in Canada</i>							
A	<i>Thunder Bay</i>	Can.	—	16,690	18,000	2.35	1.33
H	<i>T. R. McLagan</i>	Can.	—	20,490	22,200	2.14	1.21
J	<i>T. R. McLagan</i>	U.K.	—	20,490	22,200	1.82	1.00
<i>Lakers Registered in United Kingdom</i>							
B	<i>Thunder Bay</i>	U.K.	—	16,690	18,000	1.88	1.03
I	<i>T. R. McLagan</i>	U.K.	—	20,490	22,200	1.73	.94
<i>Ocean Vessels Registered in United Kingdom</i>							
C	445 ft. shelter decker	U.K.	12,600	10,100	10,100	1.92	1.25
D	495 ft. shelter decker	U.K.	17,450	12,200	12,200	2.02	1.27
E	640 ft. shelter decker	U.K.	24,150	17,500	17,500	1.93	1.18
F	640 ft. ore and grain	U.K.	23,700	17,100	17,100	1.84	1.07
G	640 ft. ore and oil	U.K.	22,500 ³	—	16,750	—	1.11

¹Fort William to Kingston, return empty.

²Sept-Iles to Hamilton, return empty.

³Maximum capacity for oil. Ore holds would be full at 17,600 tons, hence on the ocean the vessel would be more efficient as a tanker.

behind these calculations in the light of the Canadian shipowners submission and of other evidence before the Commission. Succeeding sections will consider what might be the revenue requirement to afford an adequate

return on investment in addition to costs, considering the prospects for winter employment as well, and will draw inferences as to the competitive position within the inland trades and the competition from vessels carrying bulk shipments directly overseas.

2. VESSEL CAPACITY AND VOYAGE TIME

The cost per ton or per bushel of effecting a given cargo movement is the resultant of several factors such as vessel capacity, voyage time, operating costs including capital charges, and any extra expenses that may be associated with the trade. All these factors and their several components must be considered in order to appraise the validity of the costs given in Table III.

The grain and ore capacities of the lake vessels are given facts. The seaway capacities of the five ocean vessels are, for the present at least, more a matter of professional opinion. In all cases the consulting architects have suggested a little greater capacity than the original submission; for working purposes the Commission accepts the consultants' figures. It was pointed out in the original submission that vessel G would not be suitable for moving wheat, because the dry-cargo holds (separate from the oil tanks) have not been given the necessary cubic capacity. As a matter of fact the ocean capacity for such a heavy cargo as ore is given as 17,600 long tons, little greater than the load limit imposed by seaway draughts, whereas the maximum load of oil is given as 22,500 tons. The intent to illustrate alternative use as a seaway ore carrier and an ocean tanker is evident.

The time allowed for loading and unloading cargo is a substantial part of the voyage time and hence an important factor in costs. All the times given are based on the experience of CSL with vessels of comparable size, and are said to represent the best experience in each case. It was stated that average time in port would be considerably longer, particularly for loading wheat when the movement is heavy and the loading ports congested.

The loading time for wheat includes the time taken for the loading operation, which varies in direct proportion to the quantity to be loaded, and an allowance for time lost in the loading port. The time lost occurs partly while awaiting a berth or changing berth, and is also partly due to the fact that work at the elevators stops overnight, during week-ends, and for meal hours. The lost time allowances are 20 hours for vessel C, 31 hours for D, and 34 hours for all the larger ocean vessels and the lakers. This peculiar pattern of lost time according to vessel capacity was given as an observed fact, and is accepted as such in the absence of other evidence. A completely satisfactory explanation could not be obtained, but it is believed to be related to the size of berth required, the number of shifts taken to complete loading, and the elevator working hours. Whatever the reason, it is

to be noted that the differing allowances for lost time have a major effect on the costs per ton derived in Table III above. Thus if C were to experience 34 hours lost time as assumed for the large vessels, the cost for wheat would become \$2.02 a ton instead of \$1.92 as in Table III, an increase of 10c a ton.

The lost time allowed for unloading wheat ranged from five hours for vessel C to seven hours for vessels F and H. There is comparatively little congestion of vessels at Kingston and the delay results very largely from the elevator hours. In the ore movement lost time loading and unloading was reported to be proportionately of less importance and independent of vessel size. Ore delivery requirements are known well in advance, the docks work on a 24-hour basis, and the scheduling of vessels is accordingly more effective.

Exclusive of lost time, all vessels were assumed to load at the same rate in bushels or tons per hour. For unloading wheat, the calculated times for vessels C, D and E were increased 10% on account of their less convenient structure and arrangement. For unloading ore, the calculated time was increased by eight hours for C and D, ten hours for E. The Commission has satisfied itself that these penalties represent a reasonable allowance.

Vessel speed is an obvious factor in voyage time. The effect on costs depends not only on the time that might be saved but also on the extra capital cost of more powerful engines, the extra fuel consumption per trip, and the loss of cargo capacity to engine space and perhaps to fineness of hull. The consulting architects advise that, for the three larger ocean vessels, E, F, and G, the assumed speed of 14.4 miles per hour (12½ knots) is less than would likely be provided under prevailing practice for ocean vessels. A calculation was made for a vessel FF similar to F but capable of a service speed of 17 miles per hour, the speed of the existing *T. R. McLagan* and in line with current trends. The costs per ton with vessel FF in the wheat and ore movements would be \$1.98 and \$1.19 a ton respectively, compared with \$1.84 and \$1.07 for vessel F as in Table III. The power and speed assumptions of CSL will be retained because they give the three large ocean vessels a greater advantage in the comparison. It does not necessarily follow that their winter earnings prospects would be much impaired by this assumption, which implies a less than optimum speed for general ocean operation.

3. COSTS PER TON

Costs per ton have been computed from the tonnage that each vessel could carry in a full season and the total costs (excluding seaway toll) that would be incurred or be chargeable over the season. The season is taken as 230 days for wheat, 210 days for ore. The costs per ton so derived are valid only under the given service conditions, including return in ballast. They

would remain valid for single trips under the same conditions providing the vessels were fully employed in other trades for the balance of the operating season. As some of the costs are fixed annual charges, however, the cost per ton is greater if the vessel is employed less than full time. Since continued operation at capacity is not to be expected, in practice the costs per ton may well be higher. This does not impair their value for establishing comparative vessel economy.

Annual or seasonal charges for capital costs (depreciation and interest) are a major part of operating costs, depending directly on the original construction cost and the probable economic life of the vessel. Construction costs in 1955 have been used as the basis for the estimates, both for lakers built in Canada and lakers and ocean vessels built in the United Kingdom. The Commission is satisfied that the estimates as modified by the consulting architects are reasonable approximations in each case and appropriate for comparison.

It is assumed in each case that the vessel will have no scrap or other value when the time comes for its retirement, hence the whole of the original cost is depreciated over its assumed economic life.

The annual depreciation charged is 4% for lakers, 5% for ocean-going vessels, corresponding to an economic life of 25 years and 20 years respectively. Lake vessels commonly remain in service much beyond the age of 25 years. Of the 69 dry-cargo lakers on Canadian registry at the end of 1956, 51 were 26 years old or more, the oldest being over 65 years. In like manner ocean vessels may and do remain in service after 20 years. At mid-1954 ships over 20 years of age accounted for 21% of the total number of dry-cargo merchant ships of 100 gross tons and over on the registries of countries participating in the Organization for European Economic Co-operation or on United States registry.¹⁰ The additional years of service do not necessarily reduce the average annual cost, however, for repair and maintenance expenses are reported to increase steadily with age, and many of the older lakers have had costly refits at one time or another. On the whole the Commission is satisfied that an assumed economic life of 25 years for lakes vessels and 20 years for vessels serving partly on fresh water and partly on salt affords a reasonable basis for cost comparison.

The costs include an annual interest charge of 2½%, assumed to be roughly the equivalent of 5% interest if the ship were financed entirely by borrowings repaid over the useful life of the vessel. The charge will be accepted as a component of costs for present purposes.

Fixed expenses include not only depreciation and interest but also, in the case of the lakers, the annual cost of fitting the vessel for service and laying it up each season. The lakers are assumed to recover their fixed annual charges during an operating season of 230 days, as with wheat.

¹⁰*Lloyd's Register of Shipping*, quoted in the 1954 Statistical Supplement to the Annual Report of the Maritime Transport Committee, O.E.E.C.

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In the case of ore the fixed cost apportionment against that carriage is 210/230ths of the annual charge. The ocean-going vessels are assumed to work an operating year of 330 days; the fixed charges to be apportioned to wheat and to ore are accordingly 230/330ths and 210/330ths of the annual fixed charges, respectively.

Besides "fixed expenses" the original submission included "variable expenses" and, for wheat only, "handling expenses". The latter is for such items as elevation and tallying; the amount is taken as one cent a bushel ($37\frac{1}{3}$ cents per long ton), said to be the approximate average at Kingston. The "variable expenses" included wages, fuel, provisions, repair and maintenance, supplies and dues (supplies and tools, canal and dock and harbour dues, towing, pilotage, etc.), overhead and insurance.

The estimates of variable expense are presumably most reliable for the lake vessels, since they are based on the actual experience of CSL. The details were given to the Commission in confidence for that very reason. They conform with other evidence submitted on the cost of operating lakers. For example an extensive exhibit by Dominion Marine Association¹¹ gives the average daily operating costs of four large lakers as \$1,789 exclusive of depreciation, the four vessels having an average capacity of 677,000 bushels of wheat. The comparable figure for the *Thunder Bay* (623,000 bushels) is moderately less, for the *T. R. McLagan* (765,000 bushels) somewhat more.

CSL was less sure of its estimates of variable costs for United Kingdom vessels, particularly wages, overtime and fringe benefits, though the estimates were based on the best information available, including earlier evidence before the Commission. The consulting naval architects had little independent check on these items or on other items except fuel and repairs. The estimates get considerable support from a comment on the original Exhibit 200, made in a letter from the General Council of British Shipping:¹²

"The vessel under the letter heading "C" does seem somewhat comparable with U.K. ships presently in service and the figures for operating expenses recorded in the tables appear to be fair estimates."

The General Council disclaims operational knowledge of any vessels similar to D, E, F, or G, and in fact expresses doubt as to the suitability of the latter three. It would nevertheless appear a reasonable inference that the estimates of the variable expenses for these vessels are likewise fair.

The submission of the Canadian Shipowners Association previously mentioned provides detailed cost estimates for United Kingdom registered vessels somewhat comparable to C and F. Summary data from the submission in question are given in Table IV below. For more ready reference the smaller vessel will be identified as X, the larger as Y. It will be enough to compare the estimates for the wheat movement only, which in both cases

¹¹Exhibit 165. ¹²Exhibit 243.

is from Fort William to Kingston with empty return. The estimated cost per bushel with X is 6.639c, with Y 6.109c. Adding the handling charge of 1c a bushel gives costs per long ton of \$2.85 and \$2.65 respectively, compared with a cost of \$1.92 previously derived for C and \$1.84 for F.

TABLE IV
Selected Data from "Estimated Cost of Operating in the Great Lakes"
submitted by the Canadian Shipowners Association¹

	Ocean Tramp (Vessel X)	Ocean Bulk Carrier (Vessel Y)
Estimated 1955 cost	\$2,200,000	\$4,100,000
Ocean deadweight, long tons	9,000	18,500
Seaway deadweight, long tons	9,000	15,000
Crew	36	38
COSTS PER OPERATING DAY²		
<i>Capital costs</i>		
Construction cost	\$ 328	\$ 597
Interest ³	119	217
Other ⁴	20	34
Total capital cost	\$ 468	\$ 848
<i>Ocean operation</i>		
Insurance	109	166
Repairs and Surveys	169	194
Portage	193	202
Provisions	49	52
Stores	45	72
Superintendence	12	12
Miscellaneous	22	23
Administration and general	36	36
Total of above	\$ 1,102	\$ 1,606
<i>Great Lakes, additional cost⁵</i>		
Insurance	11	15
Portage	30	33
Provisions	18	19
Stores	5	12
Miscellaneous	4	4
Total daily costs	\$ 1,170	\$ 1,688
OTHER VOYAGE COSTS, WHEAT		
Fuel	\$ 5,545	\$ 7,520
Lake Master	300	300
Overtime in canals	40	40
Welland Canal dues	60	60
Agency fees	100	100
Incidentals	25	25
	\$ 6,070	\$ 8,045
VOYAGE SUMMARY, WHEAT		
Voyage time	12.4 days	13.9 days
Voyage cost, total	\$ 20,580	\$ 31,520
Total vessel cost per day	\$ 1,660	\$ 2,268
Bushels carried	310,000	516,000
Cost per bushel	6.639c	6.109c

¹From Exhibit 248; extracts reproduced in Appendix XII. Figures may not add because of rounding.

²Operating 335 days a year for 20 years; 30 days a year allowed for repairs, survey, and deviation.

³Interest at 5% on capital borrowings repaid within 14.3 years (i.e. at 7% a year); total interest charge averaged over life of vessel.

⁴Organization, interest during construction, supervising.

⁵For 185 days per year.

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In the derivation of these figures the significant differences are those relating to vessel capacity, voyage time, and operating cost. These details are as follows:

<i>Vessel</i>	<i>Wheat Capacity</i>	<i>Voyage Time</i>	<i>Vessel Cost per day</i>
X	310,000 bu.	298 hr.	\$1,660
C	377,100 "	227.2 "	1,655
Y	516,000 "	334 "	2,268
F	638,300 "	255.8 "	2,351

It will be appreciated that the longer voyage time assumed for X and Y is a major factor in their higher costs per ton. This is not for lack of power, as the service speed is 14 knots. Hence, if the crews of such vessels had the experience of one or more seasons in the Lakes, the presumption must be that the voyage would take no longer than with comparable lakers. If the vessel were to enter the Lakes only occasionally in the course of a general tramping operation, however, the inland part of the voyage might be comparatively slow and the costs per ton correspondingly higher, for the Commission has been assured, and has no reason to doubt, that the ready manœuvring of a large vessel through restricted channels and comparatively narrow locks requires a special skill that is not acquired in regular ocean service.

Further testing Appendix XIII, a comparison may be made between the operating cost estimates for X and C, Y and F, having regard to the differences in vessel size. Comparison will be confined to the variable costs as previously described, since the fixed costs derive directly from the costs of vessel construction, which are not here questioned further. The comparisons are made on a daily basis in Table V below, again with respect to the wheat example only. For this purpose the "voyage costs" shown in Table IV have been divided by the voyage time there given; canal overtime and portage have been grouped under the title of wages, agency fees and incidentals included with overhead, and the lake master's retainer with supplies, dues and pilotage.

The estimates for provisions, supplies and overhead agree as closely as might reasonably be expected, considering that the Canadian Maritime Commission has found "a fairly wide disparity" in figures of actual experience submitted to them.¹³ Fuel costs are higher for X and Y, whereas the contrary might have been expected; this is doubtless due in part at least to differing assumptions as to motive power and rates of fuel consumption. Repairs are put higher for X and Y, but they are estimated averages over the life of the vessels whereas the estimate for C and F is a figure for early years only. Insurance is put lower for X and Y, but this is partly because of the lower capital cost, partly because the high rates applying to early and late weeks of lake employment are excluded, and may be partly the result of a different

¹³Second Report, p. 40.

TABLE V
Comparison of Estimates of Variable Costs per Day¹
Wheat Movement

<i>Tramp Type Vessels</i>		<i>Vessel C</i>	<i>Vessel X</i>
Wages		\$ 167	\$ 226
Fuel		403	447
Provisions		64	67
Repairs and Maintenance		96	169
Supplies, dues, pilotage, etc.		74	79
Overhead		80	84
Insurance		161	119
Total Variable		\$1,045	\$1,191

<i>Bulk Carriers</i>		<i>Vessel F</i>	<i>Vessel Y</i>
Wages		\$ 178	\$ 239
Fuel		520	540
Provisions		64	71
Repairs and Maintenance		152	194
Supplies, dues, pilotage, etc.		121	110
Overhead		104	84
Insurance		246	181
Total Variable		\$1,385	\$1,419

¹Data for vessels C and F from Appendix XIII, for X and Y from Table IV above. For descriptions of vessels C and F see text pp. 77 and 78, vessels X and Y text p. 83.

assumption as to the degree of coverage. For all the foregoing items the comparison either suggests no change in the previous estimates or implies that the estimates might have been calculated on a different basis for all vessels considered, lakers as well as ocean-going. Accordingly, on these elements of costs the estimates derived in Appendix XIII have been accepted.

The comparison in Table V shows a difference in the estimated wage or labour costs of about \$60 a day as between C and X and between F and Y. In the latter case the discrepancy is partly accounted for by the fact that Y is assumed to carry a crew of 38 and F a crew of 36, but C and X are each assumed to carry a crew of 36. Since the Canadian Shipowners Association estimate is based on actual experience with United Kingdom crews, it constitutes weighty evidence that wage costs are substantially higher than those incorporated in Appendix XIII, not only for C and F but also for the other vessels on United Kingdom registry. To put the matter in perspective, an increase of \$60 a day in the operating costs of vessel F would increase the cost per ton of wheat by 3.7c, the cost per ton of ore by 1.1c.

In this connection it is relevant to refer also to the daily wage costs for Park vessels on United Kingdom registry. They are about the same size and general type as C, though slower and less modern. It is reported that they are at present operated with a crew of 33 or 34. Daily wage costs given in

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Table I are \$140.50 and \$165.50, compared with \$167 for vessel C. It would be reasonable to expect the latter's cost to be even higher by comparison because of the larger crew, and because a crew bonus of about \$20 a day per vessel would be payable (and is included in the estimate for C) for service in Canadian waters. Moreover, the Park data relate to considerably longer voyages on the average, through unrestricted waters; overtime is largely incurred on entering or leaving port or passing through canal locks, and might be expected to be greater for C.

On the whole the evidence suggests strongly that the estimated wage costs for vessels on United Kingdom registry should be increased, though not necessarily by as much as \$60 a day. However, in order to avoid the danger of underestimating the strength of the possible competition from United Kingdom vessels, the Commission accepts for its own purposes the lower estimates set out in the report of the consulting naval architects reproduced as Appendix XIII.

In summary, the Commission accepts the respective costs per ton set out in Table III on page 79 as affording a reasonable appraisal of the comparative performance that might be expected in typical seaway operations with vessels of the types described. The costs derived for vessels on United Kingdom registry are believed to err on the low side in comparison with costs on Canadian registry. Moreover, the costs derived for ocean-going vessels are based on the assumption that the vessels remain in the lakes trades for most of the season and so are operated with the same skill as the lakers, and that they command the services of an equally efficient shore organization for cargo solicitation and other requirements. The reservation is made that an ocean vessel entering the Lakes only on an occasional voyage, as to take on a cargo of grain for overseas, might make slower time and hence experience greater costs for the fresh water movement. Finally, while the costs per ton are accepted for purposes of comparison between vessels, it is emphasized that the costs per ton for the given movements in actual practice would likely be higher for each vessel, since each has been assumed to be gainfully employed every day of the season, a condition which will not be typical experience.

4. RETURN ON INVESTMENT

Profit Before Taxes

The original CSL submission included a calculation of the seasonal profit before taxes that would be earned by each of the vessels in the hypothetical wheat movement at a revenue of 7c a bushel (\$2.61 $\frac{1}{3}$ a long ton), as the freight rate then was for the movement from Fort William to Kingston. The same calculation has been made in the naval architects' report, Appendix XIII. The latter's figures are reproduced in column 3 of Table VI below.

The lakers may earn additional revenue from the storage of grain. The common contract price has been a flat 3c a bushel for whatever period may

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be arranged¹⁴. Officials of CSL testified that for the four years 1951 to 1954 the net revenue from winter storage averaged about 2¾c a bushel and that they were able to earn such revenue with about 70% of their fleet¹⁵. Accordingly an additional allowance is made in column 4 of Table VI for net earnings from winter storage on an average of 70% of the vessels' capacity at 2¾c a bushel, to derive a total annual profit and rate of return on the original investment. The ocean-going vessels normally would move out to other trades for the winter; their seasonal profit on the Lakes is converted to an annual rate of return for ready comparison with the lakers.

TABLE VI
Profit Before Taxes as a Percentage Return on Original Investment
Wheat Movement Fort William to Kingston

1	2	3	4	5	6
Vessel ¹	Capital Cost ²	Profit before taxes, revenue 7c per bushel ³	Net Earnings winter storage, av. ³	Annual Profit or annual equivalent ⁴	Rate of return per annum ⁵
	\$	\$	\$	\$	%
<i>Lakers Registered in Canada</i>					
A	4,850,000	94,290	11,990	106,280	2.2
H	5,820,000	223,390	14,725	238,115	4.1
J	3,880,000	375,370	14,725	390,095	10.1
<i>Lakers Registered in United Kingdom</i>					
B	3,230,000	264,170	11,990	276,160	8.5
I	3,880,000	417,590	14,725	432,315	11.1
<i>Ocean Vessels Registered in United Kingdom</i>					
C	2,680,000	169,250	—	242,837	9.1
D	3,510,000	163,040	—	233,927	6.7
E	4,800,000	255,000	—	365,884	7.6
F	4,250,000	286,390	—	410,907	9.7

¹For description of vessels see Table III p. 79, also text pp. 77-78.

²From Appendix XIII.

³Seventy per cent of lake vessels' capacity at 2¾c per bushel; see text p. 88.

⁴For lake vessels, sum of columns 3 and 4; for ocean vessels, column 3 x $\frac{330}{280}$

⁵Column 5 as a percentage of column 2.

The reservation must be made at once that, while comparisons of profit before taxes are useful and meaningful where the basis of taxation is the same or closely similar, they may be misleading if this is not the case. In the present instance the tax liabilities are substantially different, not only between the Canadian registered and the U.K. registered vessels but also between Canadian-built and U.K.-built vessels on Canadian registry. In spite of this limitation, Table VI may be used with Table III on page 79 to show that attention may be narrowed to comparisons between four vessels: H and J on Canadian registry, C and F on U.K. registry.

It will be apparent from both Tables III and VI that a laker of the size of the *T. R. McLagan* is a more efficient and more profitable carrier in the given

¹⁴Transcript page 3690.

¹⁵Transcript pages 5191-2.

wheat and ore movements than one of the *Thunder Bay* class. Data with respect to the latter have been carried this far because, up to the end of the 1956 season, there were only two larger lakers on Canadian registry. Moreover, it is believed that vessels of the *Thunder Bay* size will continue in demand to meet some service requirements. It is nevertheless in order, for present purposes, to omit further consideration of vessels A and B.

Among the remaining vessels on United Kingdom registry the one showing the highest rate of return in Table VI is vessel I, a large laker, which would remain in the inland waters after its delivery voyage but would be manned from the United Kingdom and technically would be based there. Even if such an operation did not prove impractical for other reasons, it is highly doubtful whether a U.K. shipowner would choose to invest in a vessel confined in its use to the Lakes, rather than in ocean-going vessels, for the profitability of vessel I would depend entirely on the varying levels of activity on the Great Lakes from year to year. Vessels C and F appear less profitable in the given seaway movements, but when the inland trades turned slack—and the grain trade for one shows great variation—they could be directed into other employment in world trading, hence in practice it is likely that the shipowner would prefer them for this element of flexibility.

Vessels D and E, enlarged versions of the tramp-type vessel, will be seen from Table VI to be considerably less profitable than either C or F in typical seaway employment, and the CSL witness and the naval architects agree that there would be less assurance of profitable winter employment. The latter opinion gets support from the fact that there are comparatively few vessels of this general type and size in ocean service. It therefore appears highly doubtful that any vessels D or E would be built specifically for seaway service, though some of the similar vessels in ocean trading might find occasional seaway employment.

Vessel G, the ocean ship suitable for carrying either ore or oil, is not listed in Table VI as its dry-cargo space is insufficient to make it suitable for carrying grain. This very fact suggests that it would not be well adapted to service on the Great Lakes. The preponderant tonnages to be carried in the Canadian coasting or the international trades are grain, iron ore, and coal. There is some considerable movement of crude petroleum and refined products but not such as to give much scope for a vessel the size of G. In the dry-cargo trades it is found of advantage to use vessels that are more or less equally suited to the carriage of either ore or grain to ensure a fuller degree of employment, and with the Seaway open there is expected to be a further advantage in ability to carry either coal or grain and ore on a round trip. Vessel G would not have this flexibility and would appear from Table III to be a less efficient ore carrier than F.

Finally, while Table III shows that C has higher costs per ton than F in both the wheat and the ore movement, Table VI shows that it is almost as

profitable as F in the wheat movement. Vessel C is the typical ocean tramp; its prospects for alternative employment outside of the Great Lakes are at least as good and perhaps better than those of vessel F, the specialized seaway-ocean carrier of dry cargo in bulk. This high degree of flexibility means that it must be considered as a possible competitor of vessel F and of the Canadian lakers even for cargoes to be moved within the confines of the inland waters. Moreover, it may be taken as typical of the vessels that may seek grain cargoes at the Lakehead for direct movement overseas, a separate aspect of the new pattern of competition. For both of these reasons it is necessary to continue the comparison of C as well as F with the two Canadian lakers, H built in Canada, J built in the United Kingdom.

Profit after Taxes

It is to be expected that the long-term trend in lakes freight rates will be towards a level that yields a return on investment that is considered by the operators concerned to be adequate and normal. At higher levels there would be a strong incentive for the operators or new competitors to put more vessels into the service, which would tend to reduce the average profit. Lower levels would discourage the acquisition of new vessels even for replacements, and if any ocean-going vessels were participating some might be withdrawn for more profitable employment elsewhere, both of which reactions would tend to raise the average profit for remaining vessels. The Commission is not in a position to suggest what is an adequate return. It is therefore necessary to make a reasonable assumption as to what might be an acceptable return on investment in order to deal with the fundamental question, raised at the outset of the discussion on bulk cargo trade, whether Canadian registered lakers would be able to earn a sufficient profit at revenue levels no higher than would be required for competing vessels registered in another part of the Commonwealth. For this purpose it is the profit after taxes that must be considered.

The lower incidence of taxation is a major factor in the popularity of such "flags of convenience" as Panama and Liberia, and in the growing practice among United Kingdom owners of registering vessels in Bermuda or parts of the British West Indies. The Commission understands that, at present, a ship on United Kingdom registry is not permitted transfer to these registries. Newly acquired vessels may be so registered. Earnings become subject to United Kingdom taxation only if transferred to an owner's account there, hence a common current practice is to reinvest the earnings in fleet expansion. The ultimate outcome of such developments is uncertain, though the recent increase in the investment allowance for U.K. shipping shows that counter measures are being undertaken. In any event the immediate concern is less with competition from vessels on other Commonwealth registries than with the fact that a United Kingdom operator is subject to taxation on a different basis than a Canadian operator.

The Canadian federal income tax levy on corporations is at present 20% on the first \$20,000 of taxable income and 47% on the remainder. Among the expenses and other items deducted in arriving at taxable income, a shipping company may claim a depreciation allowance on the cost of its vessels at the rate of 15% of the diminishing balance. A special concession is available under the Canadian Vessel Construction Assistance Act to ships built and registered in Canada since January 1, 1949. The original purchaser of such a vessel may claim a depreciation allowance of up to one-third of the cost each year until the total cost has been written off for tax purposes.

Two provinces, Ontario and Quebec, levy corporation income taxes, with the result that a given corporate income would be subject to somewhat higher taxes than elsewhere in Canada. The federal tax rate is reduced by 9% where a provincial tax is levied. Under the Ontario law the calculation of taxable income is the same as the federal, for practical purposes, but the tax rate is 11%, so that the total of corporate taxes is increased by 2% of the taxable income. Under Quebec law the tax rate is 9% but the calculation of taxable income differs; in particular there is no allowance of 33 $\frac{1}{3}$ % straight line depreciation on Canadian-built ships and the allowance for ships in general is less favourable than the federal allowance of 15% on the diminishing balance. There is also a problem with respect to the provincial allocation of corporate income. In order to simplify the analysis it will be assumed that the total liability to provincial and federal tax in these two provinces is the same as the liability to federal tax elsewhere in Canada. It follows, however, that the revenue requirements so calculated for the Canadian registered vessels may be unduly low, a reservation that may become more significant should the provincial tax levies be increased without a corresponding abatement of the federal tax.

The United Kingdom levy differs not only by reason of the 40% investment allowance described in the introduction to this chapter, but also with respect to both depreciation allowances and tax rates.

Depreciation may be claimed on vessels like C and F above at the rate of 12 $\frac{1}{2}$ % of the diminishing balance. The depreciation and investment allowances together provide tax-free deductions which total, over a vessel's life, 140% of the vessel's original cost.

On a corporation's taxable income after these deductions two taxes are levied, standard income tax and a profits tax. The standard income tax rate is 42 $\frac{1}{2}$ %. The profits tax is 3% of the undistributed portion and 30% of the portion distributed as dividends. While the corporation pays both taxes directly, the standard income tax on the distributed portion is regarded as a withholding tax paid on behalf of the shareholders and is claimable by them as credits against their personal tax liabilities.

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Two examples will show the operation of the U.K. income and profits taxes with a given profit for tax purposes of £100,000:

Example 1. No dividend declared.

Profit for tax purposes	£ 100,000
Taxes payable:	
Income tax 42½ %	
Profits tax 3 %	
Total tax 45½ %	45,500
Undistributed profit after taxes	<u>£ 54,500</u>

Example 2. Declared dividend £30,000.

Profit for tax purposes	£ 100,000
Declared dividend	£ 30,000
Less 42½ % withheld as shareholders' personal income tax	12,750
Net to shareholders	17,250
Sub-total	<u>£ 82,750</u>
Taxes:	
Corporate income tax 42½ % of £70,000	£ 29,750
Corporate profits tax:	
3 % of £70,000	2,100
30 % of £30,000	9,000
Total corporate taxes	£ 40,850
Shareholders' personal tax above	12,750
Total tax payments	53,600
Undistributed profit after taxes	<u>£ 29,150</u>

It will be seen from the second example that the shareholders receive the full value of the dividend, with personal income tax deducted at the source. It will be seen also that the amount of tax paid by the corporate entity as such (£45,500 in the first example, £40,850 in the second), exclusive of any "withholding tax" on behalf of the shareholders, is 45½ % of the undistributed portion of the profit for tax purposes plus 30 % of the dividend distributed.

A number of witnesses before the Commission mentioned the United Kingdom investment allowance, usually referring to it as "overdepreciation" of 20 %, as the allowable rate then was. Comment was limited, beyond making it clear that the allowance was a valuable consideration to the recipient. No attempt was made to compare a U.K. operator's net earnings after tax with those of a Canadian operator, or to indicate the effect of tax policy in permitting realization of an adequate profit from lower levels of income than would be required otherwise.

The two questions of what net earnings after tax might be considered adequate and what are the corresponding revenue requirements are examined in Appendix XIV. The four vessels that remain of concern here are dealt with:

H—Large laker built and registered in Canada.

J—An identical laker built in the United Kingdom, registered in Canada.

C—Tramp-type ocean vessel built and registered in the United Kingdom.

F—Specialized seaway-ocean carrier of dry cargo in bulk, built and registered in the United Kingdom.

The analysis is made from the point of view of an operator at the time he decides whether or not to invest in a new vessel. The basis of the analysis is the year to year excess of vessel income over actual out-of-pocket expenses and taxes during the year, this excess being the funds that comprise both recovery of investment and net profit. A major consideration is the treatment of dividends, whether any part of them is to be apportioned to the earnings of the new vessel, and if so how much. The assumption is made that each vessel would be expected to earn a fixed amount in dividends each year, the amount in each case to be what a representative shareholder would regard as equivalent in personal income to an interest yield of 5% on the average book value of the vessel over its life (half the original cost). In addition to the dividends it is assumed that each vessel would be expected to earn for the corporate owner something substantially more than the original cost of the vessel, not only to provide for the vessel's eventual replacement in 20 or 25 years time at a cost that will probably be several times as great as the original cost, as has been the case in this generation, but also to provide for innumerable other contingencies that may arise during the period. In short, the additional return here assumed includes the "risk premium" that must be in prospect in order to induce investment in the vessel.

The assumption that the vessels have no scrap or other terminal value is maintained, as in the original CSL submission.

The term *retained funds* is used in Appendix XIV and hereafter in the text to designate the part of a vessel's gross revenue that remains in corporate hands after the payment of out-of-pocket expenses, corporate income and profit taxes, and dividends. It is to be emphasized that the *retained funds* comprise both accumulated depreciation (recovery of the original investment) and undistributed earnings.

An operator would not invest in a vessel unless the prospective *retained funds*, as just defined, were sufficient to afford what was in his judgment a minimum rate of return, which will be no less than the going rate of return on similar alternative investments. This requirement is formalized in Appendix XIV by capitalizing the prospective *retained funds* at the required rate of return on investment. If the value so obtained is equal to the original cost, the vessel would earn the required return on the capital invested in it, while a value less or greater than the cost would indicate that the vessel would earn a lower or a higher rate than the required rate of return. This method of evaluating an asset in terms of the prospective income it will earn is particularly appropriate for comparisons among the vessels being considered, with a different earning life for ocean and lake vessels, with *retained funds* accruing in

decreasing annual amounts (because of the decreasing tax exemption from year to year) even if the vessels' gross revenues remain unchanged, and with the rate of accrual differing according to whether the operation is subject to taxation in Canada or in the United Kingdom. Capitalization is simply the calculation of the present value of the prospective income at the given rate of return; in the present case it therefore evaluates automatically not only the amount of the total tax exemption, the tax rate, and the length of the earning period (20- versus 25-year vessel life), but also the rapidity with which exemptions may be claimed, hence the rapidity with which capital may be recovered and profit earned.

Canadian law permits claiming the depreciation on vessel H at 33 $\frac{1}{3}$ % a year for three years, and U.K. law permits claiming the investment allowance for vessels C and F all in the first year. If one of these vessels were the only source of income for the respective owners it is highly doubtful if the allowances could be claimed as rapidly as this, unless revenues were unusually high. A more typical instance would be the addition of one of these vessels to an existing fleet, in which event the total earnings of the whole fleet might well be great enough to claim the full allowance in three years or in one year, as the case may be. It is assumed in Appendix XIV that the latter circumstance obtains.

The final assumption made in Appendix XIV is that each vessel will be required to earn an amount of *retained funds* that will afford a return of 7% on invested capital. This is a rate of return on the decreasing value of the vessel, as distinct from a fixed annual return on the original investment. The basis for this choice of rate is set out in the appendix; it is believed to be a reasonable requirement for the hypothetical wheat and ore movements under consideration.

The Commission does not suggest that a shipowner would go through the calculations of Appendix XIV before deciding to purchase a vessel. It believes that the factors involved in the decision are the ones dealt with in the appendix, however, and that the formalization of this investment decision affords as fair a basis of comparison as is to be had for the purpose at hand.

TABLE VII
Required Revenue per Ton to Yield a Return of 7% After Taxes and Dividends¹

Vessel	Description	Registered in	Built in	Required Revenue per ton ²	
				Wheat	Iron Ore
H	Lakes bulk carrier	Can.	Can.	\$2.95	\$1.74
J	Lakes bulk carrier	Can.	U.K.	2.47	1.42
C	Ocean tramp-type	U.K.	U.K.	2.35	1.58
F	Seaway-ocean bulk carrier	U.K.	U.K.	2.29	1.39

¹Hypothetical wheat and ore movements as described in Appendix XIII. See Appendix XIV for derivation, including assumptions respecting dividends.

²In the case of the lakes vessels H and J it is assumed that part of the required yearly revenue is earned in the winter storage of wheat.

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In order to meet the requirements that have been enumerated, it is shown in Appendix XIV that the vessels engaging in the given wheat and ore movements would require the revenues per ton set out in Table VII.

It will bear repeating that the required revenues presented in Table VII are based on the assumption, among others, that each vessel is one of a fleet whose earnings are large enough to claim depreciation and investment allowances at the maximum rate permitted by law. Somewhat different figures might be derived on the assumption that each vessel was its owner's only income-producing asset, because it would take a longer period for the full tax benefits to be realized. On this assumption, however, neither owner need pay corporate income or profits tax during that interval, and hence the present value of the tax provision would be little less than in the case of the fleet-owner. In particular, the relative position among those who own only one ship would be much as shown in Table VII.

It will be apparent from Table VII that the Canadian-built laker H will not normally be an attractive investment if its physical counterpart J can be acquired as readily from a United Kingdom yard at two-thirds the cost. The effect of the Canadian Vessel Construction Assistance Act is to reduce considerably the required prospective revenues of a Canadian-built vessel from what they would otherwise be, but it alone is not enough to make H competitive with J, which does not qualify under the Act. When Canadian yards can offer prompt delivery whereas U.K. yards are booked far in advance, as in recent years, and when shipping revenues are comparatively high and are expected to remain so for some time, there may be enough of a premium on early delivery to induce the placing of orders in Canadian yards. Nevertheless it is clear that the Canadian registered laker is to be typified by vessel J, built in the United Kingdom or otherwise acquired at U.K. prices.

Vessel F is shown to be the most economical carrier of the four in the hypothetical movements of both wheat and ore. While its advantage over C is only 6c a ton with wheat, it is 19c a ton with ore. Vessel C in turn, the unspecialized ocean tramp, has an advantage of 12c a ton over the specialized laker J in the wheat movement, but in the ore movement would require more revenue by 16c a ton in order to be as profitable as J.

The specialized seaway-ocean carrier F on U.K. registry emerges as the most formidable competitor of the lakes-type vessel among all those considered in the foregoing analysis, as was argued by CSL in the course of the hearings. The main concern of the CSL submission was to show the advantage of a U.K. vessel over a laker built as well as registered in Canada (vessel H). The comparative data in Table VII not only confirm this argument but also show that the U.K. vessel F has a competitive advantage over a laker built at U.K. costs (vessel J). Vessel F could earn the given return on investment at freight rates lower than would be required for J by 18c a ton of wheat and 3c a ton of ore in the movements chosen for comparison.

In these circumstances most of the freight rates on seaway movements of dry cargo in bulk would tend to decline to levels set by competition between numerous vessels F. At such levels the annual revenue realized by the laker J would fall short of the required amount by somewhere between \$20,000 and \$85,000, judging by the ore and the wheat comparisons.

The 40% investment allowance now claimable under U.K. tax law is the decisive factor in the advantage of vessel F over vessel J and in the competitive position of vessel C. If no investment allowance were claimable, vessel F would require higher revenues than shown in Table VII by 24c a ton of wheat and 17c a ton of ore, in which event it would be the laker J that enjoyed the substantial competitive advantage. Again, had the investment allowance remained at 20% as it was prior to April of 1957, vessel F would enjoy an advantage of about 6c a ton in the wheat movement but in the ore movement vessel J would have an advantage of about 5c a ton; in such circumstances the laker J would have some competitive advantage on the whole, if only because it is to be expected that the seaway movement of iron ore from Sept-Iles will exceed that of grain from the Lakehead.

The question arises as to whether the operator of a Canadian registered vessel might be satisfied with a lower rate of return than a U.K. operator, and so continue to replace or even expand his fleet at revenue levels set by U.K. competition. This might well be the case for considerable periods at a time, given a strong and sustained world demand for shipping with the going rate of return on shipping comparatively high. The fact that Canadian operators have found ocean-going vessels an attractive investment at times is doubtless explainable in part by this consideration. The proposition is a most doubtful one on which to base long-term shipping policy, however, as experience with ocean vessels suggests and analysis confirms.

Because Canadian income tax law allows a credit of 20% of the dividends received from a taxable Canadian corporation, it has been assumed in Appendix XIV that the dividends to be earned by a Canadian shipowning corporation would be equivalent to those of a U.K. corporation if the two yields on a given investment were in the ratio of 4:5. Thus the comparisons made above already incorporate the assumption of a somewhat lower rate of return for a Canadian owner. Assuming that dividends represent only a part of the usual return on investment (the other part being included with the *retained funds*), there is no reason to assume that the bare minimum rate of return necessary to induce investment under given conditions would be less by any further amount for a Canadian than for a U.K. owner. To suggest that, as a continuing phenomenon, Canadian owners' profits might be above the bare minimum and yet less than those of U.K. owners by a greater differential than already assumed is to imply that the going rate of return for the latter would be abnormally high for lengthy periods of time. However, the shipping business is notoriously one of feast or famine. During slump periods in the

past U.K. operators, like others elsewhere, have ceased ordering new vessels even for replacements let alone for fleet expansion, which means that bitter competition reduced the going rate of return *below* the acceptable minimum. A more reasonable assumption for the longer-term view is therefore that competition among U.K. operators themselves would be keen enough to eliminate any substantial abnormality of profit margin, and that Canadian operators would require much the same overall rate of return on investment.

From the foregoing analysis it follows that the U.K. ocean vessel F, enjoying a 40% investment allowance, would have a competitive advantage over the Canadian registered laker J built at United Kingdom costs. While the comparison is based partly on operating cost assumptions in which vessel F was given the benefit of some doubts, the cost uncertainties amounted to less than 4c a ton of wheat and 1c a ton of ore, not enough to invalidate the result.

The comparative examples of vessel economics which have been developed at such length entail the employment of many assumptions, estimates, and approximations. These were chosen and utilized after very considerable investigation and the Commission believes that they constitute the most reasonable basis of comparison. It is emphasized, however, that they cannot be advanced as precise predictions of future experience. With due regard to its limitation, the comparison does establish the probability that a specialized seaway-ocean vessel on U.K. registry will have a competitive advantage over a modern laker on Canadian registry, even if the latter is acquired at U.K. costs.

In point of fact, Canadian lakers may continue to be profitable for an indefinite period and operators may continue for a time to maintain or expand their fleets. It may take some time for rates to reach their ultimate levels. Keener competition for cargoes must be expected sooner or later, however, in which case it is probable that Canadian lakers would cease to be competitive and would not be replaced on retirement, their place being taken by U.K. vessels employed either by the same operators or by overseas competitors or by both. The next few years may prove decisive because of the high average age of the present lakes fleet. Decisions on whether to invest in replacements for the older vessels must be made fairly soon; indeed some replacements are now under construction. An adequate replacement programme alone—quite aside from fleet expansion—might tax the financial resources of the industry, including its borrowing power, unless the profit prospects are favourable. At best, therefore, operators may do well to keep the lakes fleet at its present capacity through this critical period. At the worst, the lakes fleet may decline at a rapid rate in the years immediately ahead.

The foregoing conclusion must remain subject to modification with any material change in taxation policy, which is a creature of government. In the past both Canada and the United Kingdom have used taxation as a means of influencing investment in desired directions. Thus the investment allowance, a major factor in the above comparisons, was introduced in 1954 at 20% and

applied to most types of physical asset; in April of 1956 it was withdrawn from all except a limited range including shipping, and as of April 1957 the rate for shipping only was increased to 40%. However, the reason given for the latter increase was to assist U.K. operators in meeting competition in a world market, including competition from ships sailing under flags of convenience, a matter which must be regarded as of continuing concern. Again, a Royal Commission on Taxation of Profits and Income in the United Kingdom has recommended among other things that the existing profits tax be converted into a flat-rate tax on total profits¹⁹. But there was no suggestion that the U.K. treasury would require any less revenue from corporation taxes, no matter what change might be made in the basis on which it be levied. Accordingly there is no particular reason to look for an early change in the tax impact on U.K. shipowners, nor to suppose that any change would reduce rather than increase the latter's advantage in the previous comparison.

5. COMPETITION FOR INLAND TRADES

The analysis up to this point has dealt with the costs incurred and the revenues required by lakera and ocean vessels in moving a cargo of wheat and a cargo of iron ore, on the assumption that each vessel is already on the scene and is engaging in the trade or ready to engage in it. In practice the lakera will always be on the scene because they cannot be withdrawn readily, whereas the ocean vessels may be absent at the beginning and the end of the season and may be withdrawn at any time. This is particularly significant because the total tonnage of cargo carried on the waterway has varied widely from season to season, the opening and closing weeks of a season are usually the busiest, and business may be comparatively slack at mid-season. The significance lies not only in the fact that periods of enforced idleness increase a vessel's costs per ton and required revenues per ton, but also in the fact that lake and ocean vessels do not have the same choice of employment.

The ocean vessel has the obvious advantage that it can seek more remunerative employment elsewhere in seasons when the inland trades are comparatively slow. It may enjoy a similar advantage within a given season in that it can be withdrawn from the Great Lakes when slackness develops, whether or not it is brought back again before the season closes. The latter advantage would be greater if the vessel could book an outbound cargo en route to its new employment, for otherwise the advantage would be reduced by reason of the loss of earning time while en route to the alternative area of service.

The lakera on the other hand will have the advantage of being in position to operate throughout the busiest and presumably the most profitable months of the season, whereas the ocean vessel must inevitably arrive a little late and leave a little early in these periods. The submission of the Canadian Shipowners Association previously referred to assumed that the ocean vessel

¹⁹Final Report, June 1955, p. 164.

would operate only 185 days in the Lakes out of a total season that has been given as 230 days with wheat and 210 days with ore. Doubtless this assumption is conservative. Nevertheless the season at Montreal is usually a little shorter than on the Lakes. With uncertainty as to the opening date and with other factors in vessel deployment it would be unusual for an operator to have his vessel ready to enter on the first day, and certainly he would wish to have it leave before there was serious danger of his ship being frozen in for the winter.

It is difficult to assess these respective advantages of lakers and ocean vessels in quantitative terms. Each advantage may prove to be significant. Since they are opposing factors and perhaps offsetting, it does not appear that the conclusion of the preceding section requires modification.

The comparisons have dealt with typical movements in Canadian coasting trade. They are relevant also for transborder trade with the United States, a still larger source of employment for Canadian lakers at the present time. Looking at the inland trades as a whole, it appears that British vessels other than Canadian would be in the best position to realize long-term benefits from the Seaway, for British vessels would find a practical advantage over other competitors in having more varied opportunities for employment and for securing two-way cargoes. Thus any vessel could carry iron ore from Sept-Îles to a United States port and grain or coal from the United States to a Canadian port, whereas only British vessels may combine such movements with Canadian coasting movements of grain or other commodities.

United States vessels operate at a cost disadvantage compared with Canadian vessels, and at present Canadian lakers carry more transborder cargoes. The United States vessels have and will retain an advantage in carrying such of these cargoes as can be handled along with their own very substantial coasting movements, notably iron ore on the Upper Lakes. However, the U.S. coasting movement of grain—largely to Buffalo—is less than the Canadian and may decrease further with the opening of the Seaway, while most of the downbound coal moves to Canadian ports. With respect to trades extending into the Lower Lakes and the St. Lawrence River, therefore, the participation of United States vessels may be comparatively limited; Canadian registered lakers would have an advantage over them and other British vessels an even greater advantage.

A reservation must be made with respect to competition from vessels on United States registry. The payment of operating subsidies to United States ships has been authorized for overseas services from Great Lakes ports on two routes identified as numbers 32 and 33. It is vain to speculate whether or not this is the forerunner of assistance to vessels in the transborder trades, from which Canadian vessels now earn a substantial part of their total revenue. It is to be expected that the Canadian Government will continue to keep the situation under review.

6. COMPETITION FOR EXPORT CARGOES

The Seaway will permit imports and exports to be carried between inland and overseas ports without transshipment. The main bulk cargo that would benefit from this advantage is export grain.

The volume of Canadian grain moved east from Fort William-Port Arthur by water in the 1954-55 crop year was as follows:

	<i>Bushels¹⁷</i>	<i>Long tons</i>	<i>Equivalent in cubic requirements to long tons of wheat</i>
Wheat of all kinds	164,700,000	4,410,000	4,410,000
Other grain	149,400,000	2,990,000	4,000,000
	<u>314,100,000</u>	<u>7,400,000</u>	<u>8,410,000</u>

The total of 7,400,000 long tons represents the same demand for cubic cargo space as would 8,410,000 long tons of wheat. Of these quantities about 114,600,000 bushels of wheat and 49,800,000 bushels of other grain can be traced as having moved overseas. In other words the overseas exports accounted for about 52% of the grain volume shipped from the Lakehead in the crop year 1954-55. The remaining 48% represented shipments to Canadian and United States destinations. While the volume of grain to be moved overseas through the Seaway may be expected to increase, and perhaps also the volume of domestic shipments, this rough comparison will give some indication of the volume open to the competition of carriers proceeding directly overseas from the Lakehead.

Grain Exports by General Cargo Liner

A considerable amount of export grain is carried by cargo liners in scheduled services to Europe and elsewhere, as well as by tramp vessels. Liner parcels at present constitute a high proportion of the total shipments from Montreal. With the opening of the Seaway other inland ports may also become important for liner grain, judging by the post-war growth in the number of lines extending service through the existing canals, and by the United States decision to subsidize services over the new route. It is reasonable to expect that there will be an overall growth in general cargo traffic through the St. Lawrence River, with some services continuing to terminate at Montreal and others at various ports from Toronto to Chicago or on Lake Superior.

Grain is an attractive cargo for liners, partly because of its usefulness as ballast and partly as a source of revenue from space that otherwise would go unused. If the grain can be loaded and unloaded at regular ports of call the cost to the carrier is little more than that for any additional time required in port. Under these conditions the liner has a great advantage in competing with

¹⁷DBS *Grain Trade of Canada, 1954-55*, table 46.

the most efficient bulk carrier. It might under-bid the carrier even if a minor deviation were required in its route, but a major deviation or route extension would hardly be warranted. Liner competition is therefore not likely to be a major factor at Fort William-Port Arthur or Duluth-Superior, the main grain loading ports, but may well become important at Chicago, where additional grain loading facilities might be provided. The result might be a reduction in the possible use of Canadian St. Lawrence ports for the transshipment of U.S. export grain. However, other services might terminate at Detroit or at ports on Lake Erie or Lake Ontario, possibly giving rise to new demands for grain at present transfer points such as Sarnia or Port Colborne.

Against this view must be stated the fact that present cargo services, numerous as they have become, have not carried a significant volume of grain from lake ports. With the opening of the Seaway the service may be in larger vessels, though the most economic size will depend on the development of business, and it is a question whether grain parcels would be sought within the Lakes or only at a later port of call on the St. Lawrence River. At all events it appears that liner movements of grain may compete only in part with lakers for export grain. A liner demand for grain will continue at Montreal and may arise also on the Lower Lakes, supporting a considerable and complementary movement to the transfer ports in an inland fleet of bulk carriers.

Grain Exports by Ocean Tramp

It is assumed that a purchaser of grain for export will be able to take delivery in ocean vessel either at the head of the Lakes or at any lower transfer port, and that the price differentials as between grain in store at Fort William and in store at transfer port will represent the cost to a shipper of moving grain from the one storage elevator to the other. Presumably the latter movement would be by vessels of the inland fleet, of whatever composition. The exporter's incentive to take delivery in ocean vessel at Fort William would then depend on the freight rate quoted for an ocean shipment from there as compared with the rate from a transfer port. If the extra charge to the shipper were less than the price differential between the loading ports the ocean vessel would be brought to Fort William, but if these circumstances were reversed it would be hired only from the transfer port.

The critical price differentials will depend directly on the freight rates quoted by vessels of an inland fleet which in time may come to be composed in some large part of vessels as yet untried (e.g. vessel F of the earlier discussion) operating in a new physical environment and in the face of new forms of competition. Any forecast of the price differentials must therefore be largely hypothetical. A forecast of ocean freight rates at any given time must be even more uncertain, as they may vary more widely from vessel operating costs than in the case of vessels committed to a particular service or under

contract for given periods. For both inland and ocean vessels, however, freight rates over a period of time must be related to costs of vessel operation and to a return on investment that is considered normal. A reasonable approximation of the future competitive position may thus be had by projecting further comparisons on the same basic assumptions that have been evolved heretofore. On this basis Appendix XV presents estimates of the possible differences in cost to the shipper exporting grain in a direct overseas shipment and in a movement involving transshipment at Montreal. It is assumed that the transshipment is from a vessel F employed on the inland waters for the season, and that the direct overseas carriage is by vessel C, both from Appendix XIII.

Appendix XV deals only with two main costs to the shipper of grain, an estimated charge for vessel time and the elevation charge at Montreal. It is assumed that the per ton charges for other services are the same for direct export as with transshipment. The differences will serve to indicate the competitive possibilities but the estimates are not to be construed as rate predictions.

A tramp vessel that had carried an inbound cargo for discharge at a lake port would be in the best position of all to quote a low rate for an overseas grain cargo. If it had booked its next cargo at or near the overseas delivery port, it might be in almost as strong a competitive position as the general cargo liner. It would appear, however, that the cargo liners will have the advantage in obtaining most of the inbound shipments that might be available. Full vessel loads for a tramp may be restricted to a limited volume of chrome or other specialty ores, sulphur, and other industrial materials, hence this aspect of tramp competition is not likely to be a major factor and is not considered further.

The first example of the appendix considers the charge per ton of wheat that would be appropriate for the time vessel C might spend above Montreal, after discharge of other cargo there, if it proceeds in ballast to Fort William for an overseas cargo of grain. The figure derived is \$2.24 a ton of wheat. This is 11c less than the figure of \$2.35 a ton given in Table VII on page 94 for movement in the same vessel to Kingston; though Montreal is 182 miles farther from Fort William, there is a saving of the vessel's time unloading at the transfer port and a saving of the elevation charge associated with transshipment.

Vessel F in the second example is also assumed to make the voyage from Montreal to Fort William in ballast. The transfer charges include not only that for vessel F's unloading time and the elevation charges at Montreal, but also the charge for an ocean vessel's time spent loading, which brings the total of the charges to \$2.97 a ton up until the latter vessel is ready to clear for overseas. Accordingly the economy to be realized in a direct overseas

movement would be $\$2.97 - \$2.24 = 73c$ a ton of wheat or about 2.0c a bushel.

The above comparison and the following ones are subject to two main reservations. The ocean vessel C has been assumed to make the lakes voyage in 10.7 days, as might be expected with an experienced lake crew, whereas in fact an outside vessel might well make slower time through the restricted channels. An additional day in the Lakes, for example, would add 21c a ton to the costs with this vessel. Again, in the case of transshipment it has been assumed that the unloading and loading times at Montreal will be the same as the unloading time given for Kingston. If congestion were to develop to the point where vessel F would spend an extra day waiting to unload and the ocean vessel C another day waiting to load, the cost of the transshipment would be increased by a total of 39c a ton. These reservations do not alter the obvious conclusion that, if loading port price differentials were to be based on the cost of moving grain in vessels without benefit of return cargo, it would be more economic to load a tramp cargo at the Lakehead than at a transfer port unless the tramp rates were unusually high.

The prospect is, however, that a considerable economy can be realized by two-way cargo movements in the course of a single round trip. The outstanding example in the terms of quantities involved and the one of interest here is a combination of grain and ore movement. Appendix XV shows that an extended voyage from Sept-Iles to Fort William might perform this service at a saving of something like 22% of the ship hours that would be required to carry the cargoes in separate voyages.

The opportunity for economy is not limited to vessels of the inland fleet, but they would have a substantial advantage for carrying ore over an ocean tramp, not only in the matter of costs per ton of ore carried but because the volume to be moved in a season requires that vessel arrivals and departures be scheduled, perhaps within narrow time limits. The long-time practice on the Upper Lakes and the present practice at Sept-Iles is to contract with one or more carriers to move all or most of the season's requirements, and in fact the contracts may extend for more than one year with provisions for rate adjustment from time to time. Spot cargoes might be booked with tramp carriers seeking them, but the tramp arrivals might be intermittent and might tend to bunch, reflecting the vagaries of grain and other demands, and hence there must be doubt as to how much dependence an ore shipper might be willing to place on such movements.

Attention will be given first to vessel F employed on the inland waters for the season. The appropriate charge for vessel F's time on an extended round trip carrying wheat one way and ore the other would be about 22% less than the total charge for two separate movements. This raises at once the question of which cargo would get the greatest benefit in lower freight rates from a combined movement. There may be an initial period or recurrent periods of

rate instability, with ore carriers competing among themselves not only for grain but also for coal and perhaps other downbound cargoes, and with actual or potential competition from ocean vessels seeking overseas cargoes. If a substantial volume of grain must be moved without delay, shippers might have to pay a comparatively high rate to effect the movement in vessels of the inland fleet, yet this might be to their advantage if ocean freight rates are also high at the time. When grain cargoes are few, on the other hand, competition for them may reduce the rates to comparatively low levels.

In view of the latter possibility it is assumed for the third example of Appendix XV that the freight rate on ore would approximate the charge for moving it independently, that is to say \$1.71 per ton. Assuming that vessel F earned this revenue with upbound ore, it would require to earn only \$1.41 per ton of wheat in order to realize the necessary total revenue to cover a complete round trip from Sept-Iles to Fort William. To this must be added 70c a ton to cover the cost of putting the wheat on an ocean carrier at Montreal. Hence the charge per ton at that point would be \$2.11 compared to a charge of \$2.24 for an ocean vessel proceeding in ballast to the Lakehead as above. Accordingly, if the grain price differentials at the loading ports were based on the lowest rates that it would be feasible to charge for grain in a combined movement with ore, a tramp lacking an upbound cargo would be more likely to load export grain at a transfer port, unless ocean freights were unusually low.

A number of other conclusions follow directly from this third example:

- (1) There will be a strong incentive to stock the transfer elevators only with grain moved at the lowest seasonal rate per bushel, doubtless associated largely with the movement of iron ore on the same voyage, otherwise these ports would be more likely to be by-passed by ocean tramps, and grain transfers there limited to liner demands.
- (2) The St. Lawrence River transfer ports may require a greater storage capacity in proportion to deliveries than heretofore, if sufficient stocks to meet the variable overseas demands are to be built up when lakes freight rates are low, thus maximum advantage taken of the cheapest transport.
- (3) The price quoted for grain in store may be much the same at each of the various transfer ports, for the additional charge for carrying wheat as an extension of a voyage with ore may differ little whether the wheat is unloaded at any port from Port Colborne to Quebec, assuming that the unloading time and elevation charges are the same.
- (4) A tramp unable to book an inbound or upbound cargo would usually load grain at the lowest transfer port at which the desired types and quantities of grain were available.

Ocean vessels that have discharged at Montreal or other St. Lawrence ports would find an advantage somewhat comparable to vessel F in doubling back

to Sept-Iles for spot offerings of iron ore, should such be available without involving undue loss of time for loading or unloading. The fourth example in Appendix XV considers this possibility for an ocean vessel on discharge of cargo at Montreal. The charge for the wheat transportation would be \$1.48 per ton by the time the vessel had again reached Montreal, as compared with a charge of \$2.11 per ton if taken on board from a Montreal elevator, giving an advantage of 63c in favour of direct overseas shipment. The advantage of so employing an ocean vessel after it had discharged at Sorel, Trois-Rivières, or Quebec, would be the same as compared with the cost of grain loaded from these elevators, that is to say, 63c a ton or about 1.7c per bushel. However, if the ocean vessel were unable to book an ore cargo or were to find the delays with ore too costly, it would be even less likely that it could be employed economically in the voyage beyond the transfer port than in the case of discharge at Montreal.

The threat of delay for an unscheduled vessel seeking to load or unload iron ore may prove a very real disadvantage, especially if there is a tendency for a number to be seeking spot cargoes at the same time. Doubtless there will be some leeway available in loading schedules at Sept-Iles. For example, to ship 10 million tons in a season of 210 days would require daily shipments of over 47,600 tons, that is to say, the equivalent of about 4.7 vessels of the capacity of the tramp being considered, whereas the loading rate indicates that at least seven such vessels could be handled a day with existing facilities. However, unscheduled vessels might be subject to serious delays at busy unloading ports. At the present time therefore it is not certain whether the hypothetical voyage is a practical one for a tramp or for very many tramps per season. It may take several seasons' experience to determine how much of a season's ore requirements might safely be left to spot carriage by tramps and consequently how effective and how extensive might be their competition for grain at the Lakehead.

Summary Respecting Grain Exports

The conclusions of this section are subject to the reservation that it may take some time before new traffic patterns become established with any degree of stability. Thus there may be an initial period of uncertainty as to whether additional transfer facilities are required and at what locations it would be most appropriate to expand. This may be of particular importance in that a development of congestion at transfer ports may prevent realization of maximum economy in the transport of grain. Other uncertainties that can be resolved only with experience are the most efficient patterns of two-way cargo movements of ore and wheat, ore and coal, and other combinations, and the schedules of freight rates per ton of these cargoes which will emerge. Experience alone can answer such further questions as

the time taken for a lakes voyage by an itinerant ocean vessel, and the role and effectiveness of unscheduled tramps in the ore movement. With these reservations the following conclusions emerge:

- (1) General cargo liners may be expected to compete effectively for export cargoes of grain. However, they may complement more than they compete with the inland bulk carriers, in that a considerable volume of inland grain movement may be required to meet liner demands at terminal ports or ports of call.
- (2) Ocean tramps entering the Lakes with inbound cargo will be in a position to quote comparatively low rates for overseas grain shipments, but will not necessarily be in a better competitive position than the cargo liners, whether the latter take on grain at Chicago or Montreal or another transfer port. Tramps with this advantage may be comparatively few in number, aside from the possibility of carrying iron ore from Sept-Iles to lake ports.
- (3) If a tramp vessel can secure an ore cargo at Sept-Iles without incurring undue delay there or at the unloading port, whether the ore cargo is loaded on entering the Gulf of St. Lawrence in ballast or after discharge of other cargo at a St. Lawrence port, it will be in a strong competitive position to quote a comparatively low rate for moving grain from the Lakehead directly overseas, as compared with grain shipped via a transfer port. Whether this advantage will materialize in fact, and for how many vessels per season, will depend on experience with spot cargoes of ore. If the experience proves favourable, tramp competition on this basis can be expected except at times when ocean rates are high enough to make other employment even more profitable.
- (4) Tramp vessels not carrying iron ore or other cargo into the Lakes would be most likely to load at the most convenient transfer port at which the required cargo could be had. For example, if the vessel became available on discharge of other cargo at or near Montreal it would likely load grain there or at Sorel, or if the vessel were to be brought into the St. Lawrence in ballast it would likely load at Quebec or Trois-Rivières.

On the whole the inland fleet (which may include other vessels as well as Canadian lakers) may expect to carry not only all the domestic grain movement but also considerable quantities of export grain to be transferred to liners and other ocean vessels at various transfer ports, although direct overseas shipments may be keenly competitive, and there may be a considerable variation from season to season in the proportion of exports that are handled at the transfer ports as compared with the proportion shipped directly overseas.

E. Summary of Conclusions Respecting Prospects for Canadian Registered Shipping in Coasting Trades

The most common employment in the coasting trade of vessels on United Kingdom and other Commonwealth registries is at present by Canadian operators, who may charter the vessels by the season. This employment is confined largely to the Atlantic seaboard and the St. Lawrence River below Montreal. Three regular general cargo services are operated directly by United Kingdom interests, but no United Kingdom operator competes directly in bulk trades except on an *ad hoc* basis incidental to other vessel employment. It would appear reasonable to expect that future employment of United Kingdom vessels will continue to be largely by Canadian ship operators.

On the East Coast and on the Gulf and River St. Lawrence, in the absence of a change in the present coasting law, it is probable that Commonwealth and Canadian vessels would continue to divide the field, the Commonwealth vessels being used in particular for those volume movements of bulk cargo for which general purpose ocean vessels are well suited. While the proportion of the total trade carried in U.K. vessels may continue to increase, there would nevertheless appear to be good prospect for continued employment of vessels on Canadian registry in most of their present uses.

On the Pacific Coast the use of other Commonwealth vessels is of negligible importance and is likely to remain so.

With respect to the Great Lakes, it appears that Canadian package freighters may lose to overseas carriers some of that portion of their present business consisting of goods that are only in the Canadian coasting trade in the course of a longer export or import movement. However it appears that something like 85 to 90% of the package freight business consists of goods moving from point to point in Canada. The major Canadian operator did not fear the loss of this business to ocean competitors and the Commission finds no reason to suggest otherwise.

The greatest concern expressed was with respect to the future of Canadian registered lakers in competition for inland bulk cargoes, including the inland movement of grain destined for export. The trades at stake are both coasting and international. The fears appear justified. Under present tax structures, a specialized ocean-going bulk carrier on U.K. registry may have an advantage not only over a Canadian registered laker built in Canada but also over one built in the United Kingdom or otherwise acquired at comparable costs. While existing lakers would be operated for their remaining useful life, competition may force Canadian operators to arrange in future for the seasonal chartering of suitable United Kingdom vessels built for the purpose.

Besides opening the inland trades to competition from large vessels on United Kingdom and other registries, completion of the Seaway will permit the exportation of grain in regular ocean vessels loading at Fort William-Port Arthur, Duluth-Superior, Chicago, or elsewhere. The competitors for export grain will therefore include not only the vessels of the inland fleet but also vessels in international trade to overseas ports. Among the latter vessels may be general cargo liners on regular schedules, as well as tramps. However, the liners may remain as much complementary to the inland fleet as they become competitive with it, for liner shipments from Montreal and perhaps other grain transfer ports may be expected to support a continuing movement to those ports by the inland fleet.

The incentive for tramp vessels to seek overseas grain cargoes within the Lakes at any given time will depend in the first instance on whether freight rates in regular ocean employment are comparatively low or high. The incentive will depend also on the freight rates on grain movements to transfer ports that emerge from the new patterns of seaway cargo movements, such as moving grain east and ore west in one round trip of an inland vessel, and on whether it would be practical for very many ocean tramps to pick up spot cargoes of ore at Sept-Îles on their way to the Lakehead, ore shipments being as closely scheduled as they are. While the volume of grain shipped directly overseas may therefore vary considerably from year to year, on the whole this form of competition is likely to be keen. Canadian operators in the inland trades will find it necessary to use the most economic type of vessel available and to deploy them with the greatest efficiency in order to remain competitive.

The volume of export grain handled by the inland fleet and the transfer ports will depend also on the adequacy of the facilities at these ports for unloading, storing, and reloading. Should any substantial delay be experienced in unloading the inland vessels or loading ocean vessels at the transfer port, the additional cost in vessel time may make the operation uneconomic. Again, greater storage space in proportion to sales may be required than has been the case heretofore. For the transfer elevators must be stocked with grain moved at the lowest freight rates obtainable if the price is to be competitive with that at the Lakehead, which means it must be moved more at the convenience of the carrier and in conformity with other cargo movements. With this limitation, larger stocks might have to be built up if maximum economy is to be realized despite the periodic surges in demand for grain.

CHAPTER VII

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

A. Introduction

Many submissions to the Commission advocated the restriction of the coasting trade to vessels registered in Canada, as a means of ensuring the survival of a substantial Canadian registered fleet. Some advocated that the trade be restricted to vessels built as well as registered in Canada, so as to also assist the shipyards. However, it is convenient for the sake of clarity to consider this latter proposal separately in Chapter IX of this report, which deals with the shipbuilding and ship repairing industry, since there are important divergencies of interest between shipyards and ship operators.

The general argument for restriction of registry was to the effect that Canadian registered ships faced elimination by lower cost ships on United Kingdom registry, whereas the public interest would be better served by an all-Canadian coasting fleet. It was conceded that the public interest was largely but not exclusively in low-cost service. It was argued that there must also be assurance of adequate and reliable service available in peace or war. The Commission was therefore asked to recommend appropriate changes in Part XIII of the Canada Shipping Act to limit participation in the coasting trade to vessels registered in Canada.

The advocates of this proposal recognized that it would require a modification of the terms of the British Commonwealth Merchant Shipping Agreement, or Canadian withdrawal from it in part or wholly. The Agreement is reproduced as Appendix VIII. Article 11 provides that coasting laws or regulations treat all British ships similarly. Article 24 provides that any of the parties may withdraw from the Agreement or from any Article on twelve months notice, and Article 25 provides for variation of the Agreement by common accord. There are thus established procedures for effecting a change.

Ship operators themselves were divided on the proposal to restrict the coasting trade to Canadian vessels. The Dominion Marine Association and the St. Lawrence Shipowners Association asked for the restriction, as did eleven ship operators appearing on their own behalf. The Dominion Marine Association described itself as an association of Canadian shipowners trading on the Great Lakes, with 24 members and 3 associated companies representing over 816,000 gross registered tons or some 98% of the

Canadian Great Lakes fleet. This association took a position with respect only to trades on the Great Lakes and the St. Lawrence River as far as the west end of Anticosti Island. For these inland waters they advocated not only restriction of registry for the coasting trade but also the negotiation of a treaty with the United States which would have the effect of restricting the purely trans-boundary trades to "... vessels of the United States and Canadian ships." The St. Lawrence Shipowners Association is comprised of owners of small coasting vessels, generally under 200 gross registered tons, trading mainly in the Gulf and River St. Lawrence. The eleven operators included Canada Steamship Lines, Branch Lines, Clarke Steamships, and Union Steamships.

On the other hand the Canadian Shipowners Association, the Shipping Federation of Canada, the B.C. Towboat Owners' Association, and 17 ship operators appearing separately opposed any such restriction of the Canadian coasting trade. The Canadian Shipowners Association described itself as an association of 26 companies owning 80 ocean-going cargo vessels of 509,000 gross tons; it may be added that the members generally are more interested in international trade than coasting and that owners of vessels now on United Kingdom registry under the Transfer Plan are strongly represented. This association was in general agreement with the objective of maintaining a Canadian fleet, not only coasting but ocean-going, but differed as to the method; it contended that

"... the maintenance of adequate Canadian-controlled and -operated shipping services and their attendant shipbuilding and ship repairing facilities, sufficient to insure that water-borne transportation services to, from and within Canada cannot be exploited to the advantage of foreign competitors for Canadian overseas and domestic trade and which will be available in times of emergency (when non-Canadian services may not be), is a national responsibility the costs of which should be borne by the nation as a whole and not by any particular section of the country, nor made an enforced burden on users."

The Shipping Federation of Canada described itself as an association of steamship owners and steamship agencies whose members are mainly operators of Canadian, British and foreign deep-sea vessels that trade between eastern Canadian ports and countries overseas, and stated that the tonnage entered in the federation for the year 1954 was over 5,500,000 gross tons. A number of firms are members of both the Canadian Shipowners Association and the Shipping Federation. The latter association made no alternative suggestions for assistance to the shipping industry, nor did the B.C. Towboat Owners' Association. The individual companies opposing the restriction included Furness Withy, Newfoundland Canada, Newfoundland-Great Lakes, Constantine Lines, Iron Ore Transport, Dingwall, Saguenay Terminals and subsidiary companies of pulp and paper firms.

The preceding chapter establishes that the future of Canadian registered shipping is uncertain, particularly in the Great Lakes area. In general the

cost of operating a given vessel on Canadian registry is considerably higher than on United Kingdom and other registries. This handicap has resulted in the virtual disappearance of Canadian registered ships from the high seas, and has led Canadian operators to make extensive use of United Kingdom tonnage in coasting trades on the Atlantic seaboard and the St. Lawrence River below Montreal. More recently the U.K. owner has been given substantial tax relief with respect to vessel earnings, associated with the acquisition of new ships, to enable him to maintain his fleet at low revenue levels set by world competition.¹

On the Atlantic seaboard 42 Canadian vessels of 1,000 gross tons and over are now employed despite the general advantages of U.K. registry. It is to be expected that many would continue to be employed in any event, for it is by no means certain that the new tax concession will lead to a significant change in the level of U.K. charter rates in comparison with the cost of operating a Canadian vessel.

By far the greatest tonnage of Canadian registered shipping is employed in the bulk trades, both coasting and international, of the Great Lakes and St. Lawrence River. Upon completion of the Seaway it appears probable that U.K. registered vessels of special design, suitable for service on the ocean as well as on the Great Lakes, would have an advantage over Canadian registered vessels competing in these trades. The advantage would derive partly from lower operating costs on U.K. registry and partly from the U.K. owner's lesser tax liability with respect to new ships. These two factors may be expected to outweigh the greater carrying capacity of the largest Canadian laker. In this event most Canadian operators would find it more profitable to employ specialized vessels on U.K. registry than to acquire new ships to be registered in Canada. Hence, the tonnage on Canadian registry would decline to a low level as existing lakings were retired in due course.

Canadian registered shipping appears secure from other British competition only on the Pacific Coast, and there the trend is towards towed scows and barges for the heavy bulk movements.

The question arises of how effective the restriction would be in providing cargoes for Canadian registered ships. It will be recalled from Chapter III that Canadian vessels in 1955 carried 24.5 million tons of cargo in waterborne trade with the United States, as well as carrying 32.9 million tons out of a total coasting trade of 36.4 million tons; vessels registered in the U.K. or elsewhere in the Commonwealth carried 3.5 million tons of coasting trade. The proposed restriction might affect the volume of cargo to be carried and hence the net gain to be expected in the coasting trade, while all the transborder trade would be open to foreign competition. Competition from other routes and other means of transportation must also be taken into account.

¹The investment allowance. See Chapter VI.

B. The Economics of the Proposed Restriction

It will be apparent that the result of restricting the coasting trade to vessels registered in Canada will be higher charges than now obtain or than might have come into effect after the opening of the Seaway for the shipment of a wide range of commodities. The Commission will examine the probable magnitude of these differences in shipping costs and their economic significance for the various interests affected, including the shipping industry itself.

Reasonable notice would have to be given before the restriction could be made effective, to allow operators to acquire suitable vessels and have them accepted on Canadian registry, for the present pool of Canadian shipping is not large enough to take over the additional service. The emergence of settled freight rate patterns in the new circumstances might well take somewhat longer, and even then the rates might be expected to vary from year to year as they do now. The following discussion will assume that these adjustments have taken place. The comparisons will be in terms of the general trends in freight rates, which must be toward levels high enough to induce the vessel replacements required to maintain the service.

I. EAST COAST, GULF AND ST. LAWRENCE RIVER BELOW MONTREAL

The effect of the proposed restriction may be judged by reference to the volume of coasting trade carried during 1955, the latest year for which complete data are available. In that year vessels on United Kingdom and other Commonwealth registries carried 3.5 million tons within the eastern region, 28% of the total of 12.0 million tons. Both figures include some 800,000 tons of iron ore shipped from Sept-Iles to Contrecoeur, a movement that is expected to be replaced by shipments direct to ports on the Great Lakes, largely in international trade. Exclusive of these shipments the U.K. registered vessels carried 2.7 million tons, 24% of the remaining 11.2 million tons. This represents the volume of business that would be affected at once by the proposed restriction.

The effects on transportation cost would not end there. The Canadian coasting fleet includes a number of vessels acquired from the Government at the end of the war and maintained on Canadian registry by agreement. The years of useful life remaining to these vessels are numbered. When the time comes for their retirement it is to be expected that some owners would find it more economical to employ U.K. vessels in their place. In particular, a subsidiary of DOSCO owns three such vessels, used to transport iron ore and limestone to the Sydney steel plant. A company official made the following comment in the course of testimony on the increases in

Proposed Restriction of Coasting Trade to Vessels Registered in Canada

transportation costs that would be caused by excluding U.K. vessels from the coasting trade:

"It is true that under the abnormal conditions following the war, DOSCO, in order to have transportation for ore and limestone, found it necessary, by force of circumstances, to acquire and convert into a suitable type for their trade, three ships built during the war and disposed of by the Canadian Government under special terms. We could not, of course, duplicate this arrangement today."

The "special terms" included not only the price but the undertaking to retain the vessels on Canadian registry. The implication is that the enforced employment of replacement vessels on Canadian registry would add substantially to the cost of transporting the company's ore and limestone, a movement that amounts to over a million tons a year. It follows that the proposed restriction would materially affect coasting movements that in 1955 accounted for more than 3.7 million tons of cargo, 33% of the 11.2 million tons of typical coasting trade.

1. Bulk Cargoes

Coal, iron ore, and limestone are the major bulk cargoes that would be affected. Movement is largely by the ship-load in general-purpose ocean vessels which may be typified by "vessel C" of Chapter VI and Appendix XIII. Comparisons will be made between the revenue per day of coasting employment that would be required for this vessel and the revenue that would be required by an identical vessel on Canadian registry, assuming that each is to earn a comparable return on investment after taxes. The assumptions in this respect are the same as those of Chapter VI. These comparisons will show the extent of the increase to be expected in the charges for water transportation as a result of the proposed restriction of the coasting trade.

The required vessel revenue must exceed the variable (out-of-pocket) expense by an amount sufficient to provide for capital recovery, profit, and taxes. The variable expenses will differ with the vessel's employment, but a general approximation for vessel C may be derived by averaging the variable costs cited in Appendix XIV. Section 8 of that appendix gives this figure as \$354,536 for a 330-day year, or \$1,074 per operating day. Using this cost figure the required revenue, on the given assumptions, would be \$706,896 for a 330-day year or \$2,142 per working day. It is therefore to be assumed that vessel C (on United Kingdom registry) could find various alternative employments the year round yielding this daily amount of revenue on the average, hence that this would be the typical charge for its employment in the Canadian coasting trade.

The variable expenses incurred in operating an identical vessel for 330 days on Canadian registry would be greater by an amount estimated in Appendix XIV to be \$95,450. This figure agrees closely with direct evidence on operating cost differentials. The total variable costs are thus put at

\$449,986 a year. The difference in revenue requirements is much greater than the difference in variable costs, however. Although the Canadian and U.K. operators are each assumed to pay the same price for their ship, the Canadian operator has a greater tax liability and hence requires correspondingly higher revenues in order to recover the original cost and realize a comparable profit. The total revenue requirement of the Canadian vessel as found in Appendix XIV is thus \$874,755 for a 330-day year or an average of \$2,651 per operating day. Table I below compares this requirement with that of the U.K. vessel C; it will be seen that the total difference is \$167,859 a year or an average of \$509 per operating day.

TABLE I
Estimated Revenue Requirements of a Tramp-Type Vessel on United Kingdom
and on Canadian Registry¹

	Revenue Requirement		Canadian Requirement greater by
	U.K. Registry	Can. Registry	
<i>A. Total Requirements over a 330-day year:</i>			
Variable expenses	\$354,536	\$449,986	\$ 95,450
Capital recovery, profit, taxes	352,360	424,769	72,409
Total requirement	\$706,896	\$874,755	\$167,859
Average per working day:			
Variable expenses	\$ 1,074	\$ 1,364	\$ 290
Capital recovery profit, taxes	1,068	1,287	219
Total requirement	\$ 2,142	\$ 2,651	\$ 509
<i>B. Required Revenue from 240 days coasting:</i>			
Yearly requirement	\$706,896	\$874,755	\$167,859
Less 90 days at \$2,142 off-season employment	192,780	192,780	—
Balance required from coasting	\$514,116	\$681,975	\$167,859
Balance per day of coasting employment (÷240)	\$ 2,142	\$ 2,842	\$ 700

¹From Appendix XIV. It is assumed that each vessel is built in the United Kingdom at an estimated cost of \$2,680,000.

The Canadian registered vessel could earn the additional \$167,859 only in trades not open to other British competition, that is to say only in Canadian coasting trades. If it were to find year-round employment there the daily charge for such service would average \$2,651, about 24% higher than the corresponding charge for the U.K. vessel. The bulk trades in eastern waters provide year-round employment for very few vessels, however, hence during the off-season employment would be sought in outside trades. If revenues in the alternative employment averaged \$2,142 a day as assumed above for the U.K. vessel, the Canadian vessel must recover its extra \$167,859 from the coasting trades. If the typical Canadian vessel could secure eight months coasting business a year, Table I shows that the necessary charge to the Canadian shipper would average \$2,842 a day of

coasting employment, greater by \$700 or 33% than the corresponding charge for a U.K. vessel. If the coasting employment averaged less than eight months the Canadian shippers would be called upon to pay even higher charges.

It is to be emphasized that the foregoing comparisons relate only to possible charges for the actual water transportation, not to charges for cargo handling or terminal services or other shore costs, which may be assumed to remain unchanged. The implication is that competition among Canadian registered vessels only would tend to establish such transportation charges some 24% to 33% higher than if competition from United Kingdom vessels were present. Most of the coal movement is seasonal, and so are the movements of iron ore and limestone, hence in each case the increases in transportation costs would tend to average out closer to 33% than to 24%.

The above analysis is based on present-day operating costs. Restriction of the coasting trade might well be expected to result in a considerable increase in these costs. Competition would be reduced to that between Canadian operators, lessening the incentive to keep costs down. Labour costs, which are a major factor, might be expected to rise because of this lessening of incentive on the part of management and because of the virtual monopoly the unions would enjoy in controlling the manning of vessels carrying the coasting trade. In the result, forces tending to keep costs down would be reduced and new forces tending to increase them would come into play. It is therefore probable that the estimates of rate increases consequent upon restriction are conservative.

The Nova Scotian coal industry is not in a position to absorb any increase in transportation costs. The coal moves under federal subvention to many of its largest markets, including the large Montreal market. The general policy is to subsidize its transportation to the degree necessary to deliver it at prices competitive with coal from the United States. It is to be expected that the opening of the Seaway will result in substantial reductions in the cost of transporting competing United States coal from the Lower Lakes to Montreal, to Quebec generally, and perhaps even farther east. Accordingly, maintenance of the present subvention policy even without the proposed restriction may involve a substantial increase in the amount payable. Since the cost of transportation is a major factor in the delivered cost of the Cape Breton coal, an increase amounting to anything like 33% of this cost would impose a second new handicap. To prevent the collapse of this industry the alternatives would be either to exclude the coal movement from the proposed restriction of coasting trade or to counter the increase in transportation costs with a substantial increase in subsidies.

The cost of transporting iron ore and limestone to Sydney would be increased as the three vessels now performing this service came to be

replaced. Each of these vessels has a deadweight capacity of 10,130 tons compared with about 12,600 tons for vessel C above. It was estimated that operation of a vessel like the latter on Canadian registry would require additional compensation of \$167,859 (Table I); it may be assumed that the difference in the case of the smaller vessels would be in proportion, say about \$135,000 each. The enforced use of vessels on Canadian rather than U.K. registry would thus add about \$400,000 a year to the cost of producing iron and steel. Since DOSCO must compete with other producers not subjected to a like increase in costs, it is doubtful how much of the extra \$400,000 could be passed on to the users of steel products. The result would probably be a significant weakening of the company's competitive position.

2. General Cargo Services

The proposed restriction would exclude the Furness Warren and Furness Red Cross lines from their present participation in the coasting trade. Each of these lines provides coasting service between Newfoundland and mainland Canadian ports as an integral part of an overseas service. For both lines taken together an official of Furness, Withy & Company testified that the coasting movements account for 23% of the total cargo and 14% of the total passenger traffic. Evidence on behalf of the company was that, if any action was taken that would debar them from carrying passengers and cargo in the coasting trade, it is extremely doubtful that the services could be operated on their present schedules. Unless an exception were made for these two lines it is apparent that implementation of the proposed restriction would result in less satisfactory services to Newfoundland in both the international and the coasting aspects. It may be presumed also that enforced separation of international and coasting services would itself be a major factor in causing higher freight rates for each movement, in addition to the higher costs of Canadian vessels in the latter movement.

One of the first casualties of the proposed restriction would probably be the general cargo service between Canadian ports on the Atlantic and Pacific coasts. Saguenay Terminals has been cultivating this business, using vessels on United Kingdom registry, and has succeeded in developing a fairly regular service. Like the Furness lines the operation combines both international and coasting service. The evidence was that the coasting trade provides only about one-third of the total cargoes carried and that employment of Canadian vessels would make it unprofitable.

The other liner operations now employing U.K. vessels are various services to Newfoundland, including Canadian Constantine Services and Newfoundland-Great Lakes. These two lines use U.K. vessels exclusively. Clarke Steamship Company and its associated companies also make some use of U.K. vessels. The most direct and careful evidence on cost differentials

in this field was supplied by a witness for Clarke Steamships, arguing the need for protection of Canadian vessels. The witness took as an example a regular service between Montreal and St. John's, Newfoundland, and compared the cost for an operator using a vessel on United Kingdom registry with the cost for an operator using a similar vessel acquired at about the same cost but registered in Canada. It was submitted that terminal and various administrative costs would be the same for each vessel. For the Canadian vessel they would account for about 55c out of the freight dollar, with the remaining 45c representing the operating cost. Use of the United Kingdom vessel would reduce the latter cost to an estimated 37c, so that the total cost would be in the ratio of 92c for the U.K. vessel compared with \$1.00 for the Canadian vessel. Thus an operator using a vessel on United Kingdom registry would have a margin of 8% available for profit or for competitive rate reduction, compared with an operator using a similar vessel on Canadian registry, although the operating cost of the Canadian vessel, apart from terminal and administrative expenses, was 22% higher. The tenor of the argument was that restriction of the coasting trade might tend to cause freight charges in general cargo services to be something like 8% above the levels that otherwise might obtain, but that it would not add significantly to the retail price of goods. An extensive list of consumer goods was given with the freight charge from Montreal (Exhibit 83), from which it would appear that the differential in question would amount to about one-fifth of a cent on a pound of butter or of ham, 17c on a washing machine, and so on.

The above example deals with a seasonal operation. It has been pointed out in Chapter VI that the cost advantage of a vessel on U.K. registry may be greatest in the case of a seasonal operation and may be considerably reduced in the case of a year-round liner operation in Canadian waters. In the latter cases the U.K. costs would more nearly approach Canadian costs, hence the difference would be less than 8%. On the other hand it was also pointed out that U.K. owners enjoy a tax advantage which, in the present context, would mean a greater margin for profit after tax or a greater margin for competitive rate reduction. On the whole, therefore, the figure of 8% may be taken as a reasonable approximation of the increase in freight rates that would compensate for the substitution of a Canadian registered vessel for a U.K. vessel in general cargo services. Since operators now using Canadian registered vessels exclusively compete in varying degree with others employing U.K. vessels, which tends to keep freight rates lower in all cases, elimination of the U.K. vessels might be followed by an increase of about 8% in most general cargo services.

Small as the freight rate differences might be in terms of the price of consumer goods, it cannot be assumed that the customer would be indifferent to them. Evidence was presented that living costs in Newfoundland were

already higher—in the order of 9% or so—than elsewhere in Canada. Moreover, while consumer goods would form a large proportion of any mixed or general cargo movement, a miscellany of other commodities would be affected, some of much lower value in proportion to volume or weight and less able to absorb an increase in transportation costs. For example, much of the gypsum rock shipped from Nova Scotia and fluorspar from Newfoundland is carried as part of a general cargo. Other examples brought to the attention of the Commission are gypsum lath and wallboard shipped from Newfoundland.

A witness for Newfoundland Fluorspar Limited testified that the cost of transporting a ton of fluorspar would represent about 15% to 20% of the delivered value at Port Alfred. Another Newfoundland producer of fluorspar suspended operations during 1957, being unable to develop a Canadian market in the face of competition from a Mexican source. A manufacturer of gypsum products testified that the transportation cost of rock drawn from Nova Scotia represented 66% of the delivered cost at the plant, and supplied confidential information showing it to be a significant proportion of the final selling price of typical products. The witness observed further that a change in transportation costs can have a disturbing influence on plant location, which depends on an optimum combination of the cost of transporting raw materials to the plant and finished products out. The submission of the Aluminum Company of Canada made a similar point about the location of manufacturing and distributing facilities in relation to transportation costs. The managing director of Atlantic Gypsum testified that present water transportation costs to Montreal ranged from 12% to 18% and from 9% to 14% of the respective market prices there, and that the effect on the Newfoundland plant of an increase in transportation costs would be "extremely detrimental, if not fatal."

Other effects that may be expected to follow implementation of the proposed restriction are the transfer of shipments to rail or other carriers, and resort to other sources of supply. The shipment of alumina from Port Alfred to Kitimat will exemplify the possibilities. The Aluminum Company of Canada gave the 1955 cost of shipping a ton (2,000 pounds) of alumina from Arvida to Kitimat by rail as \$16.66, the cost via Port Alfred by water as \$13.35. Water shipments of this and other operating materials were reported as over 50,000 tons in 1955, and the volume was expected to grow as the Kitimat operation expands. The shipments were made by the inter-coastal services of Saguenay Terminals. If this service were discontinued the alternatives would be either to continue the shipments by rail at an increased cost of almost 25% or to draw from another plant. Similarly, an increase in the cost of moving fluorspar from Newfoundland to Port Alfred might cause a change to Mexican or other sources.

3. Canadian Registered Shipping

The stated objective of the proposed restriction of the coasting trade is to increase the employment of Canadian registered vessels. An estimate of the tonnage that would be added to Canadian registry may be based upon the fact that in 1955 there were 44 vessels of over 1,000 gross tons on U.K. registry employed in the coasting trade east of Montreal, aggregating 210,602 gross tons. This included 4 vessels aggregating 20,307 gross tons employed in the Furness Warren and Furness Red Cross services to Newfoundland and 7 vessels aggregating 47,180 gross tons employed by Saguenay Terminals.

Were the Furness vessels to be prevented from carrying coasting cargoes in the course of their international voyages, it is doubtful whether the operators of other services would find it necessary to make a material change in the tonnage they employed, as it does not appear that the full capacity of their vessels is being used at present. The main coasting employment of the Saguenay Terminals vessels was in the intercoastal service. Even if that service were continued it would provide full-time employment for only about one vessel, whereas in fact it would probably be terminated, hence it is most unlikely that any of the Saguenay Terminals vessels would be registered in Canada. This eliminates from consideration 11 vessels aggregating 67,487 gross tons.

The remaining 33 vessels aggregated 143,115 gross tons. Of these 15 carried coal from Sydney to Montreal, accounting for 71,274 gross tons of this total. As already pointed out the alternatives to collapse of the industry would be either exemption of coal movements from the proposed restriction or a substantially greater increase in coal subventions than would otherwise be required. If coal were excepted, the restriction would add less than half of the U.K. tonnage in question to the Canadian registry. If the other alternative were followed, the increase in Canadian vessel tonnage would result as much from indirect subsidization as from the restriction.

Some of the 33 U.K. vessels were operated in the coasting trade for only part of the season. If they were all to be replaced by Canadian vessels, there would be a strong economic inducement, felt by both operators and shippers, to employ as few vessels as possible with a longer season for each. Failing an extensive adjustment of shipping schedules to this end, the increase in transportation costs would be even greater than has been suggested. Allowing a reduction of as little as 20% for this factor and for other decreases in demand for shipping as a result of the higher charges leaves a net figure of 114,492 gross tons of shipping, exclusive of vessels under 1,000 gross tons each, that might be added to Canadian registry. If the vessels were of the same average size as the U.K. vessels they would displace, the addition would amount to about 27 ships.

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A final adjustment must be made with respect to the three DOSCO vessels now on Canadian registry, amounting to a total of 21,550 gross tons. In the absence of a change in the coasting law it is probable that they would be replaced eventually by vessels on U.K. registry, as observed earlier. It is to be presumed that the proposed restriction would ensure replacement with Canadian registered vessels. Adding these 3 to the above estimate of 27 gives a total of some 30 ships aggregating about 136,000 gross tons that might be maintained on Canadian registry. This would be equivalent to about 19 of the largest Park vessels (10,000 tonners), which are typically about 7,150 gross tons each.

II. THE PACIFIC COAST

Restriction of the coasting trade on the Pacific Coast to vessels registered in Canada would have comparatively little effect on transportation costs. Virtually all the self-propelled vessels and the great majority of scows and barges in coasting trade are on Canadian registry.

Some of the barges now being used are registered in the United Kingdom. In all the cases brought to the attention of the Commission the vessels were acquired second-hand, and U.K. registry had been resorted to because the vessel had been denied Canadian registry as a result of the operation of Section 22 of the Canada Shipping Act, which provides that a ship built outside of Canada shall not, without the consent of the Minister of Transport, be registered in Canada. For example, while on the West Coast most of the logs are moved in towed rafts, there has been a fairly recent development of self-unloading barges to carry logs. Two such barges were built in a Canadian yard for a pulp and paper company. Towboat companies have had others produced by the conversion of old hulls imported for the purpose, the conversion being done in a Canadian yard. Some of the hulls were admitted to Canadian registry, but others have not been.

The provisions of Section 22 of the Canada Shipping Act were enacted in 1950. Submissions relating to its operation are dealt with in Chapter XI. Despite the fact that a vessel refused Canadian registry may be registered elsewhere in the Commonwealth and thus be eligible to engage in coasting trade, as yet only a comparatively few barges have been so registered and there is no evidence to indicate a more substantial trend to this practice. Given the continuance in force of Section 22, therefore, it follows that the proposed restriction of the coasting trade to vessels registered in Canada would not affect many barge operations and that the economic effects of this new restriction would be of a minor nature.

III. THE GREAT LAKES

1. Transportation Costs

The typical Canadian registered vessels that would be employed in the coasting trade of the Great Lakes and St. Lawrence River if the proposed

restriction were enforced would be lakers built in the United Kingdom (vessel J of the previous analysis). While a specialized seaway-ocean carrier (vessel F) was shown to be the most economical of all if owned and registered in the United Kingdom, the cost of employing a similar vessel on Canadian registry would be at least 24% greater, as in the case of the tramp-type vessel considered earlier in this chapter. It would be almost as costly to employ such a vessel as a Canadian-built laker, vessel H.

The grain movement is by far the largest in the coasting trade of the area, accounting in 1955 for 10.0 of the 17.1 million tons of coasting cargo carried within the Great Lakes and between the Great Lakes and the eastern region.² About half of the quantity shipped from Fort William-Port Arthur was exported overseas, largely from St. Lawrence ports. After the Seaway is completed some export grain may be shipped directly overseas from the Lakehead, particularly in years when ocean freight rates are comparatively low. It was shown in Chapter VI, however, that on the average it would probably be less costly to export via a St. Lawrence port, providing the grain was carried to the transfer ports by the low-cost U.K. vessels which also carried iron ore from Sept-Iles on the same trip, and providing the charge for the grain movement was no greater than would compensate for the extra vessel time in making the extended voyage to the Lakehead. In the examples given the advantage of exporting by a transfer port would average 13c a ton of wheat (\$2.11 as compared to \$2.24).

The enforced use of Canadian registered vessels in coasting trade would make it more costly on the average to export Canadian grain via a transfer port than by direct overseas shipment, as will be seen by substituting vessel J for vessel F in Example 3 of Appendix XV. The example deals with the carriage of wheat from Fort William to Montreal by a vessel F which also carries Sept-Iles ore to Cleveland. It shows that, on the given assumptions, the total charge for moving the wheat and effecting the transfer to ocean vessel at Montreal might be \$2.11 a ton. Similar calculations will show that the laker J might complete the round trip in 389.3 hours at an average daily charge of \$4,365, a total revenue requirement of \$70,804 for the entire trip. Ore revenue at the assumed rate of \$1.71 a ton on 22,200 tons would yield \$37,962, leaving \$32,842 to be recovered from the movement of 20,490 tons of wheat, which amounts to \$1.60 a ton of wheat. Adding 70c for the transfer charges gives a total of \$2.30 a ton, higher by 19c than the figure derived with the U.K. vessel F. The result would be that on the average it would be cheaper by 6c a ton to ship directly overseas from the Lakehead.

It follows that the proposed restriction would cause a very substantial reduction in the volume of coasting trade. The cost of exporting Canadian

²Chapter III, Table II.

grain would be greater than with no restriction by about 13c a ton ($\frac{1}{3}$ c per bushel of wheat), and greater by a like amount than the cost of exporting United States grain shipped to St. Lawrence ports by the lowest-cost carriers available. Should the latter movement become substantial, most Canadian export grain would be shipped directly from the Lakehead and the main business of the Canadian transfer ports would be in U.S. grain.

Almost half the Canadian grain shipped from the Lakehead in the 1954-55 crop year was for processing or other use in Canada. Such shipments would remain in the coasting trade. If the delivery port were below Lake Erie, it would be cheaper for a vessel to carry them in the course of an extended round trip on which Sept-Iles ore was carried in international trade. In these instances the employment of the Canadian laker J rather than the U.K. vessel F would cause the transportation costs to be greater in about the same proportion as in the case of grain delivered to Montreal, where the difference found above was 19c or about 9%. In other instances there might be no such return or complementary cargo available, yet the comparative costs of employing vessel J and vessel F would be little different. It was shown in Chapter VI that, on the given conditions, including no return cargo, the cost of delivering wheat to Kingston would be \$2.47 a ton if vessel J were employed, \$2.29 a ton with vessel F. The difference is 18c a ton or about 8%. It follows that the proposed restriction would cause the cost of grain shipments remaining in coasting trade to be greater than otherwise by about 8 or 9%.

Petroleum oils and products provide the second-largest volume of coasting cargoes, amounting in 1955 to a total of 3.7 million tons carried within the Great Lakes and between the Great Lakes and the eastern region.³ Virtually all the movement is in tankers on Canadian registry. All but two of these vessels are of canaller dimensions and one of the two larger ones is now being converted to a dry-cargo carrier. There is no evidence that transportation costs could be reduced by the employment of vessels on U.K. registry or that suitable U.K. vessels might become available, either now or on completion of the Seaway, hence nothing to indicate that the proposed restriction would be a factor in transportation costs.

The coasting trade movements include iron ore, pulpwood, cement, sand, gravel, stone, package freight and miscellaneous cargoes. The package freight would be carried in Canadian vessels in any event, and the sand, gravel, and stone would continue to be moved largely in scows. The proposed restriction of the coasting trade would have no bearing on their costs. It would make a difference of about 2% of the cost of moving iron ore, judging by the example considered in Chapter VI. It might affect pulpwood, cement, and miscellaneous other cargoes in varying degree, much depend-

³Chapter III, Table II.

ing on what new shipping arrangements might be worked out after the Seaway is completed.

2. Canadian Registered Shipping on the Seaway

It has been pointed out above that existing lakers would continue to be employed for the remainder of their useful life, but without imposition of the proposed restriction would probably be replaced eventually by vessels on U.K. registry. A question arises as to the size of the lakes fleet that would be maintained on Canadian registry on a permanent basis, should the proposed restriction be enforced. The demands of the coasting trade would be the major determining factor. The preceding discussion on freight rates shows that some transborder trade would be carried in association with this trade. The combined movement would require an extension of the coasting voyage and so provide employment for a greater number of Canadian ships than would the coasting movement alone. Again, ability to employ Canadian vessels in the transborder trades when coasting trades were slack might influence owners to maintain a larger fleet than if there were no alternative employment at all.

No precise prediction can be made with any degree of assurance as to what might be the size of the Canadian fleet in these circumstances. A very general indication may be had by comparing the extent to which the existing fleet is employed in coasting and transborder trades, respectively. No statistics are available as to ton-miles of cargo carriage or other comparable measure of employment, so the data on cargoes carried (derived from loadings and unloadings) must be used for the purpose.

It was shown in Chapter III that the coasting cargoes carried within the Great Lakes and between that area and the eastern region amounted to 17.1 million tons in 1955, almost all of it carried by Canadian lakers and canallers, and that the same vessels carried 22.6 million tons of transborder trade for a total cargo movement of 39.7 million tons. The 17.1 million tons of coasting trade includes 6.4 million tons of grain shipped from Fort William-Port Arthur to Canadian ports within the Great Lakes. It also includes 3.6 million tons of grain shipped to Montreal or other Canadian ports beyond, some of it from the Lakehead but most of it reshipped from lakers to canallers. Exports accounted for about half of the grain shipped from the Lakehead, that is about 3.2 million tons, and for perhaps 3 million tons of the reshipments in canallers, or a total of say 6 million out of the 17.1 million tons of coasting cargo. The remaining coasting cargoes therefore amounted to about 11.1 million tons, which is 28% of the total of 39.7 million tons carried.

The division of vessel employment between coasting and transborder trades would probably be much the same in terms of cargo ton-miles as in terms of cargo carried. The latter includes a double count of the grain

reshipped in canallers. Nevertheless the average distance of all the grain shipments counted on this basis would probably be comparable to the average shipment of iron ore from Lake Superior to Canadian ports. It would probably exceed the average shipment of coal, the other major item of transborder trade, for a large amount of coal moves only across Lake Erie or from Lake Erie to Lake Ontario. The Great Lakes fleet on Canadian registry at the end of 1956 numbered 269 vessels of 1,000 gross tons and over with a total carrying capacity of 1,336,406 deadweight tons.⁴ It follows that the coasting trade exclusive of grain destined for export provided employment for roughly 28% of this capacity or about 374,000 deadweight tons.

The fleet to be maintained after the Seaway is completed would be larger than required for coasting trade alone, because a number of vessels would make extended voyages to secure return cargoes in the transborder trade. Iron ore available at Sept-Îles is the significant instance. It is shown in Appendix XV that a vessel able to make a round trip to Montreal with wheat in 302 hours would require another 108.6 hours to make a round trip with ore and wheat, from which it may be inferred that such voyage extensions would require a one-third increase in the capacity of the fleet so employed. Not all the coasting voyages would permit of such extensions, however, hence an increase of 20% of the previous figure of 374,000 deadweight tons would appear an ample allowance for this factor. That gives a total of nearly 450,000 deadweight tons. A very rough approximation of the capacity of the lakes fleet that might continue to be maintained on Canadian registry is therefore about 450,000 deadweight tons—about one-third the capacity of the present fleet.

It is probable that Canadian enterprises now operating canallers and lakers have more to lose than to gain as a result of the proposed restriction of the coasting trade. It is certain that they face major adjustments in any event. Virtually all of them own the vessels they operate. They will find it necessary to retire many canallers as more suitable vessels become available, and this will mean a loss in the capitalized value of the fleet notwithstanding the fact that the original cost and perhaps the replacement cost of the vessels may have been recovered. The existing lakers will continue in service for the remainder of their useful life. The capitalized value of these vessels may be impaired in due course by lower freight rates, but only if the new competitors appear more rapidly than the older lakers are retired, for rates will decrease only when there is a surplus of vessels. The proposed restriction would affect these adjustments only by preventing the level of freight rates in coasting trade from falling as low as they eventually would in transborder trade, and thereby make it profitable for Canadian owners

⁴Chapter V, p. 60, Table IV.

to replace some lakers on their retirement with other vessels on Canadian registry.

The Canadian operators need have little fear of being displaced by operators from the United Kingdom or elsewhere in the Commonwealth. Experience on the East Coast suggests that a domestic enterprise can make more effective use of chartered tonnage for a Canadian operation than can the overseas owner, and the same experience is likely to be found on the Great Lakes, because the Canadian firms are thoroughly familiar with the requirements and their connections and shore organizations have been long established. If the superiority of the specially designed seaway-ocean carrier foreseen in Chapter VI is borne out in practice, it is most probable that this type of vessel would be built by U.K. interests for seasonal use by Canadian operators, whether on a charter basis or under a partnership agreement or other suitable arrangement to be worked out. Canadian enterprises might thus pass on some or all of the risks of ownership to U.K. shipowners, and at the same time acquire the use of the lowest-cost carriers. They would be in the strongest possible position to retain all their present business in both coasting and transborder trade and to participate in any new business to be developed.

The proposed restriction of the coasting trade would guarantee the Canadian operators a certain minimum level of operation, but that field would be of much more limited scope. It is probable that they would lose most or all of the export grain shipments now carried in coasting trade to St. Lawrence River ports. Having lost the export business it is unlikely that Canadian registered vessels could be employed profitably in any very substantial share of the transborder trades, except to the extent that it provided return cargoes or alternative employment when the coasting trade was slack. It is probable that the Canadian operator, in addition to employing Canadian registered lakers for the coasting trade, would also employ vessels on U.K. registry for participation in the transborder trades, making the greatest possible use of his knowledge and business connections. On this basis he might well expect to benefit from a large and growing volume of trade between the United States and Canada. With some of his vessels eligible for coasting trade and others not, however, he would find a considerable lack of flexibility in the deployment of his combined fleet. More vessels would be required to carry the same volume of business. There would be a lesser volume of two-way cargo movements and more lost time, resulting in a more costly and less profitable operation than if all his vessels were eligible to carry both coasting and transborder cargoes.

C. Availability and Stability of Service

Under this heading will be considered the various questions raised as to the ready availability of shipping service on demand, the continuity and reliability

and general adequacy of shipping services. The advocates of the proposed restriction of the coasting trade emphasized these considerations, arguing that Canadian ships would always "be there" (especially lakera), whereas ships on United Kingdom registry might be attracted elsewhere in peace or directed elsewhere in an emergency. It was argued further that this consideration made a Canadian coasting fleet worth any extra cost resulting to the Canadian shipper or consumer. The present section will consider the subject in the context of normal peacetime conditions. Two subsequent sections will deal respectively with emergencies in peacetime and the total emergency of war.

Adequate shipping service implies ability to acquire suitable vessels from time to time, and hence a concern of ship operators generally with shipyard facilities. The position of Canadian shipyards must be considered separately, however, as already stated.

There is no question as to the importance of reliability and continuity and general adequacy of shipping service in the coasting trade. A severe and prolonged lack of service could disrupt the Canadian economy, from the lumber, pulp and paper industries on the Pacific Coast and the grain farmers of the Prairies to the coal mining and other extractive industries of the Maritimes. But neither the reliability, the continuity, nor the general adequacy of shipping service appears in jeopardy, nor does it appear that the service would be improved by the proposed restriction. Service in United Kingdom vessels is always available in peacetime at the going market price, and service in foreign vessels is to be had should occasion warrant.

At present Canada depends heavily on such services, not only in the eastern coasting trades but also and far more in her vital international trades, yet no general or prolonged shortage of vessels has been experienced. Normal business arrangements ensure the necessary supply of vessels as and where needed. Thus, it has been noted earlier that by far the greater proportion of United Kingdom vessels in the coasting trade are on charter to Canadian operators, which simply involves advance arrangement of the charter period and terms. Again, much cargo is and will be carried under continuing contracts, in which case the scheduling of deliveries is likewise a matter of advance arrangement, no matter who is the carrier or what vessels are used; a carrier withdrawing vessels in violation of a contract would be subject to court action. Other cargoes commonly moved on a voyage basis, such as grain, may be carried in coastal waters by returning contract carriers, notably ore carriers.

It is true that other Commonwealth vessels may not be available on the inland waters in the opening and closing weeks of the navigation season, when the grain movement usually is heaviest. Most of the rush at such times may be confined to grain for Georgian Bay and other ports from which grain is to be forwarded by rail. If experience proves grain demand to be in fact excessive

in such periods, the very demand will provide operators with some financial incentive for retaining more lakers.

Restriction of the coasting trade to vessels of Canadian registry would in no way improve the general adequacy of service. On the contrary, it would not only perpetuate the shortage of bottoms now occurring in busy periods on the Great Lakes, it would also extend this experience to other coastal waters, for it is most unlikely that the Canadian fleet could be expanded economically to meet extreme peaks of demand. If these extreme peaks were to be met, additional vessels would have to be recruited from outside of Canada, and this would be accomplished naturally and more readily if the coasting trade were to remain open to the whole pool of Commonwealth vessels.

The subject of availability and general adequacy of service therefore reduces to a matter of the varying prices at which the service will be available, and whether this variability may be so substantial as to be disruptive to business and inimical to the public interest.

Discussion of rate variability will be facilitated by a reference to Figures 1, 2, and 3. Figure 1 charts monthly indices of ocean freights from 1920 to July of 1957. Figure 2 presents a monthly index of time charter rates from 1947 to June of 1957. Figure 3 gives monthly rates on liner parcels of heavy grain from Montreal to London for the years 1949 to mid-1957; the rates are for shipments arranged in the month indicated, which may be either in the same month as the actual movement or well in advance. The indices and rates are tabulated in Appendix XVI.

It will be seen that ocean rates are indeed variable. The changes shown in Figure 1 have been sudden and extensive at times, reflecting the effect on the demand for cargo space of world events and of rapid trade growth or trade stagnation. A suitable series for time charter rates does not extend as far back, but it will be seen from Figure 2 that the trend is much the same as for ocean freights generally. While these charts represent the average experience of many different trades, in some of which the fluctuations may be greater and in others less, Figure 3 shows that variations in the rate on wheat and other heavy grain from Montreal have been closely parallel for the given years. Looking at the upward surge at the time of the Korean hostilities, for example, the general index of ocean freights (Figure 1) rose from 71.4 in May of 1950 to 203.8 in May of 1951, an increase of 185%; over the same period the grain rate (Figure 3) rose from 37.3 shillings to 105 shillings per long ton, an increase of 181%. Again, the index rose from 80.1 to 162.2 or by 102% between August 1954 and May 1956, while the grain rate rose 85% over the same period.

There are other ocean movements which may experience no such wide month to month or year to year variation in transportation cost, however. Examples are general cargo consignments on regular liners, or bulk movements where the volume is large and requirements are predictable for the

most part. In these circumstances long term charters are common, not only for year round but for seasonal employment, and while little information is published as to the terms, it is apparent that the incentives include cost stability as well as economy. Thus the submission of Dundee, Perth and London Shipping Company Ltd. states that charter arrangements with Newfoundland-Great Lakes Steamships Ltd. have been made to provide seasonal tonnage from year to year at a fixed rate which would not fluctuate with the freight market. DOSCO reports having chartered before the Second World War a number of colliers for ten to twelve seasons at a time, and an official testified that while the company had none of such length at the time of the hearing it had one three-year charter. The company has provided the Commission with a confidential statement of the average cost of freighting coal to Montreal in recent years, including shipment on vessels owned by the company, and on both time and on trip charter. Despite this variety of arrangement, Table II shows that the season to season variation in average cost is much less than the variation in the time charter index of Figure 2.

TABLE II
Freighting Coal from Sydney to Montreal
Variation in Average Seasonal Cost compared with Monthly Index
of Time Charters

Year	Index of Cost of Coal Transportation ¹	Index of Time Charters ²
1948	100	96
1949	100	79
1950	92	79
1951	141	211
1952	154	115
1953	109	68
1954	101	80
1955	110	140

¹Average seasonal cost as a percentage of the figure for 1948.

²From *Norwegian Shipping News*, base July-December 1947 = 100; see Figure 2 and Appendix XVI.

Figures 4, 5, and 6 chart the freight rates for the water movement from Fort William to Montreal for wheat, oats, and barley, respectively, for the years 1946 to 1957. There is a striking stability of rate as compared to the fluctuations of ocean rates. It will be noted also that the rates for wheat and barley have been at the maxima allowed by the Board of Grain Commissioners except in the 1954 and 1955 seasons, though the rate for oats has been below the maximum ever since it was first established. The Commission does not suggest that regulation is the only factor in this relationship, but is of the opinion that it is a major one. The Commission cannot conclude that restriction of all coasting trades to Canadian registered vessels would produce the same stability of rate without a like degree of regulation.

FIGURE 1-MONTHLY INDICES OF OCEAN FREIGHTS
1920-1957
(EXCLUDING WAR YEARS)

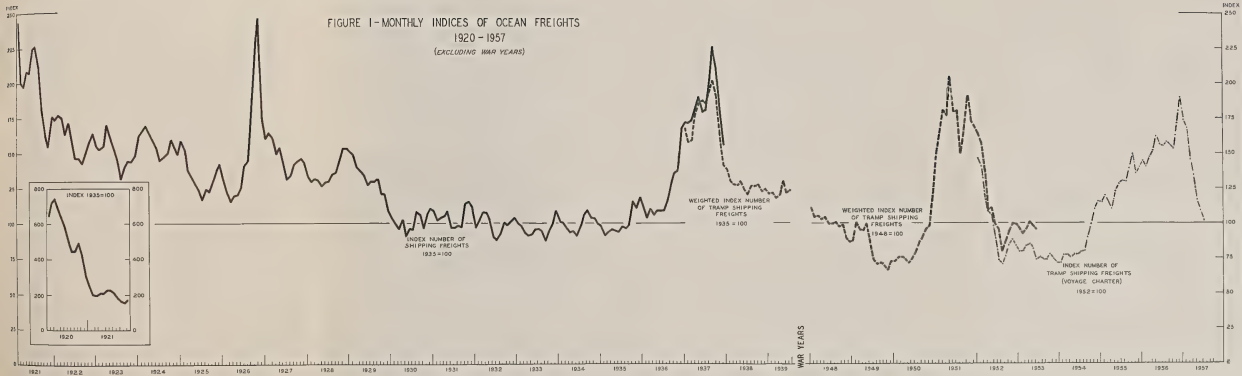
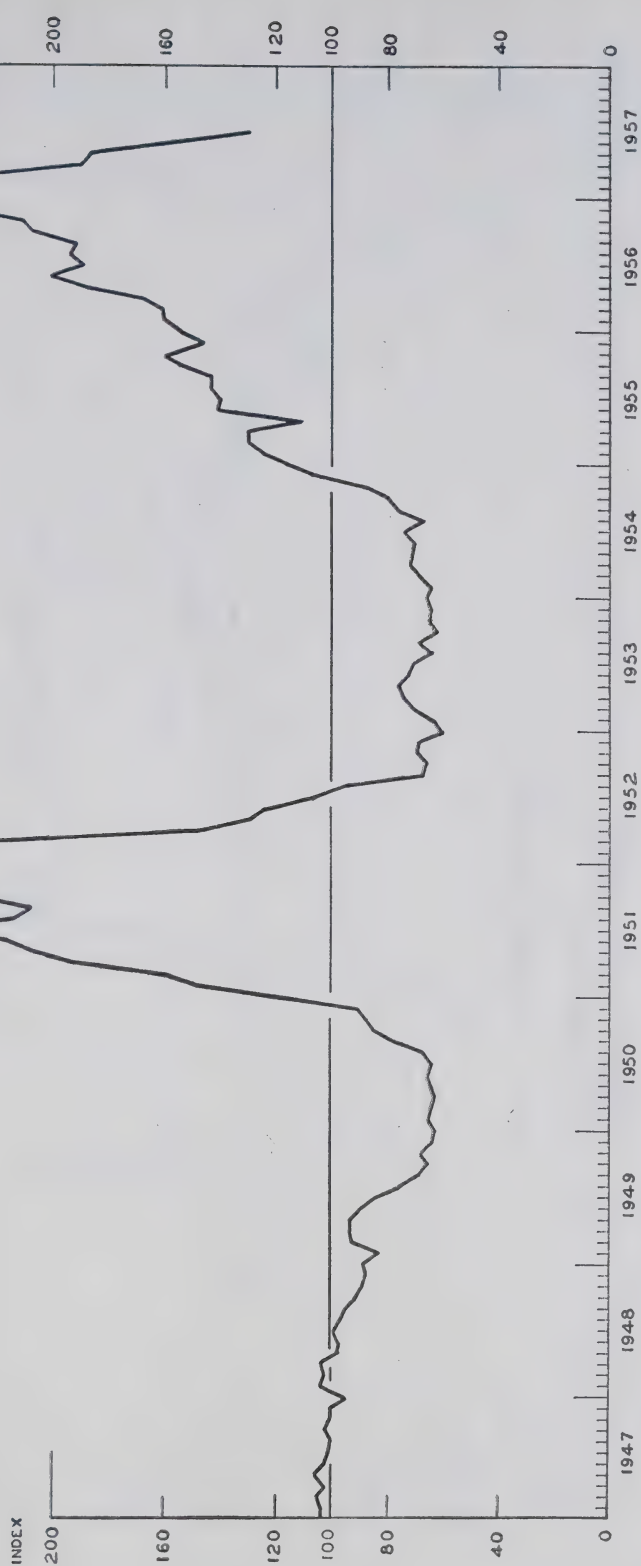


FIGURE 2 - MONTHLY TIME CHARTER INDEX
1947 - 1957

(JULY TO DECEMBER 1947 = 100)



SOURCE: NORWEGIAN SHIPPING NEWS

FIGURE 3 - RATES FOR HEAVY GRAIN - LINER PARCELS

MONTREAL TO LONDON

1949 - 1957

(LOWS HIGHS BY MONTHS)

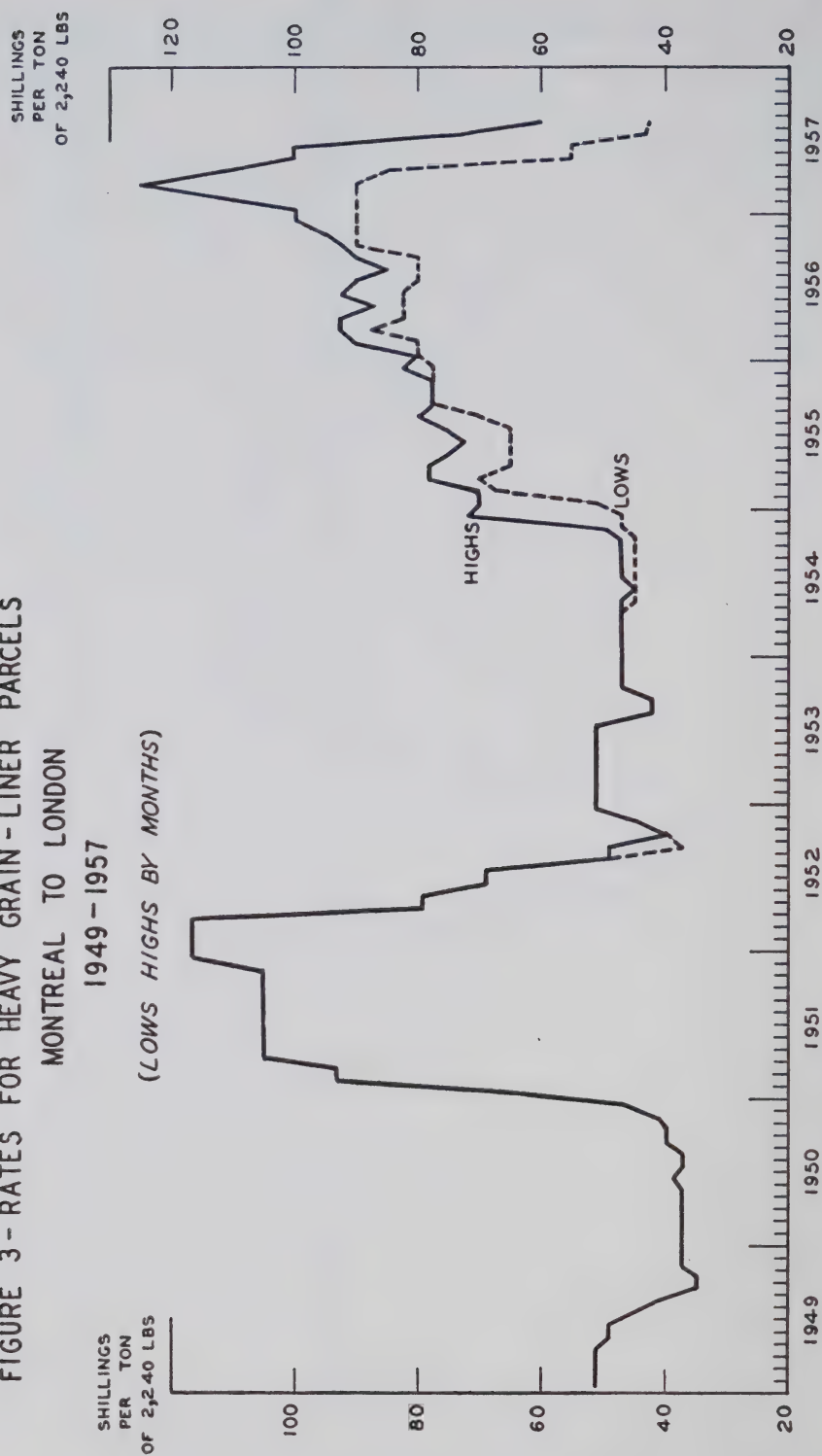
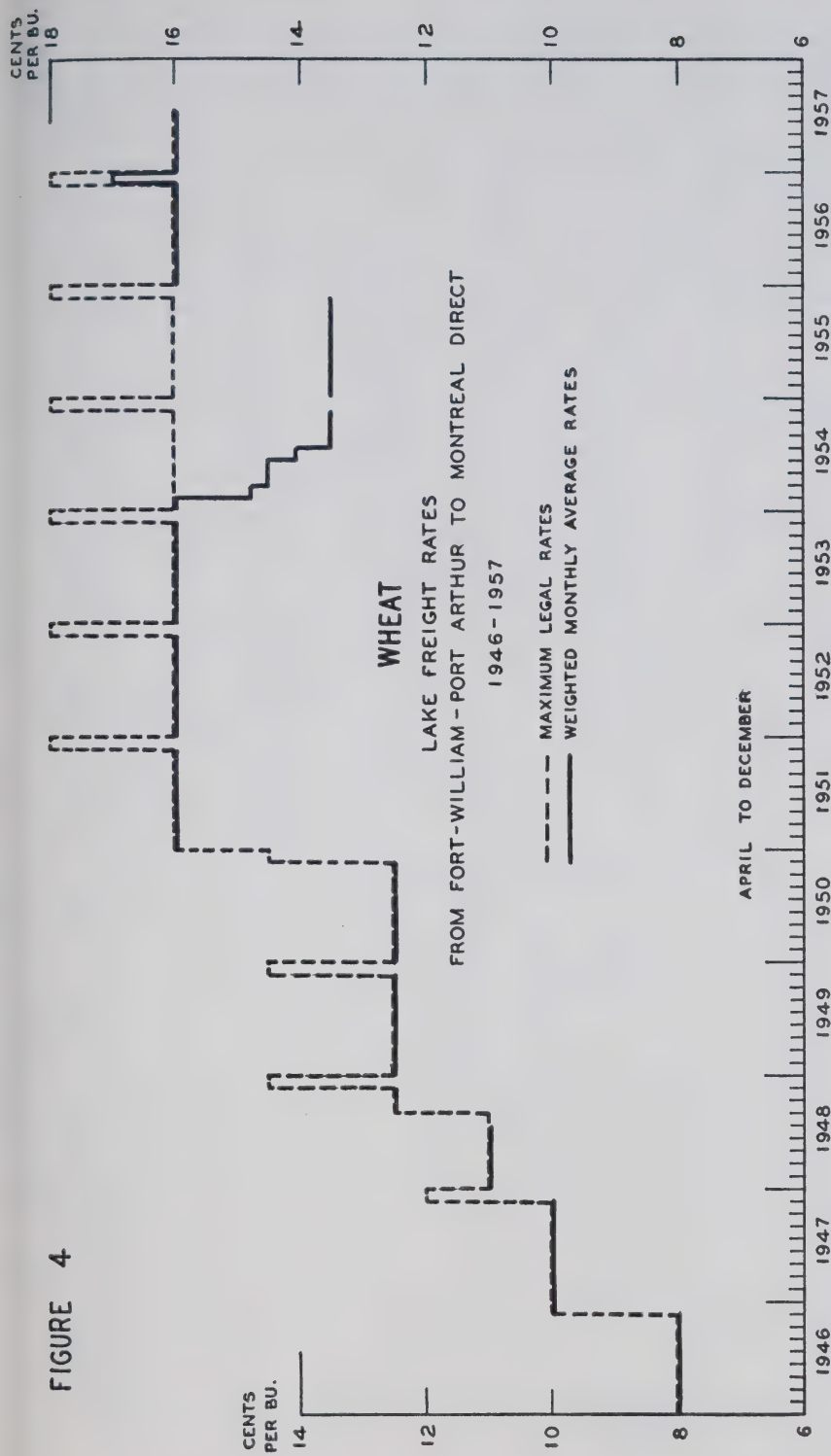


FIGURE 4



SOURCE: BOARD OF GRAIN COMMISSIONERS FOR CANADA

FIGURE 5

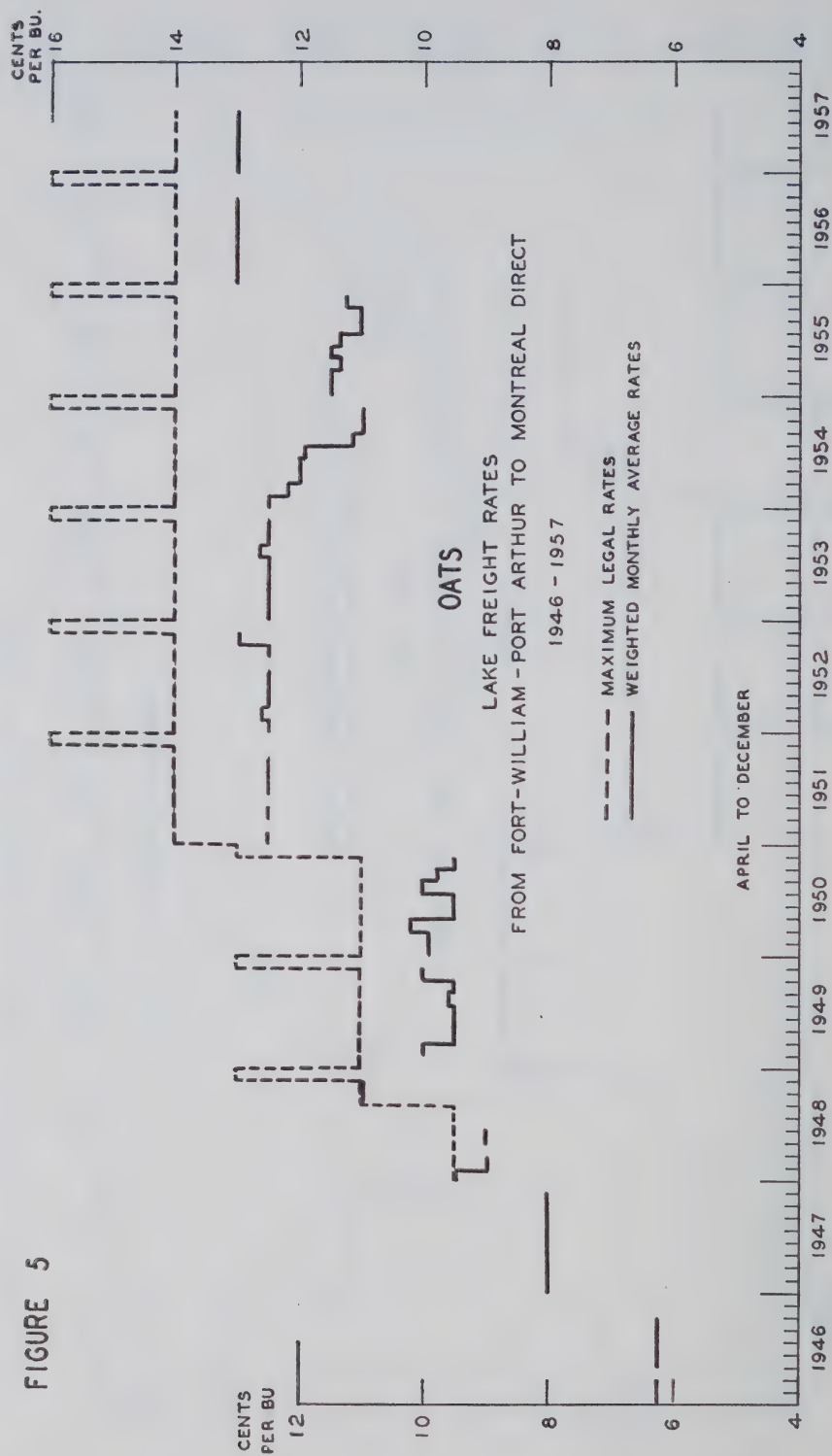
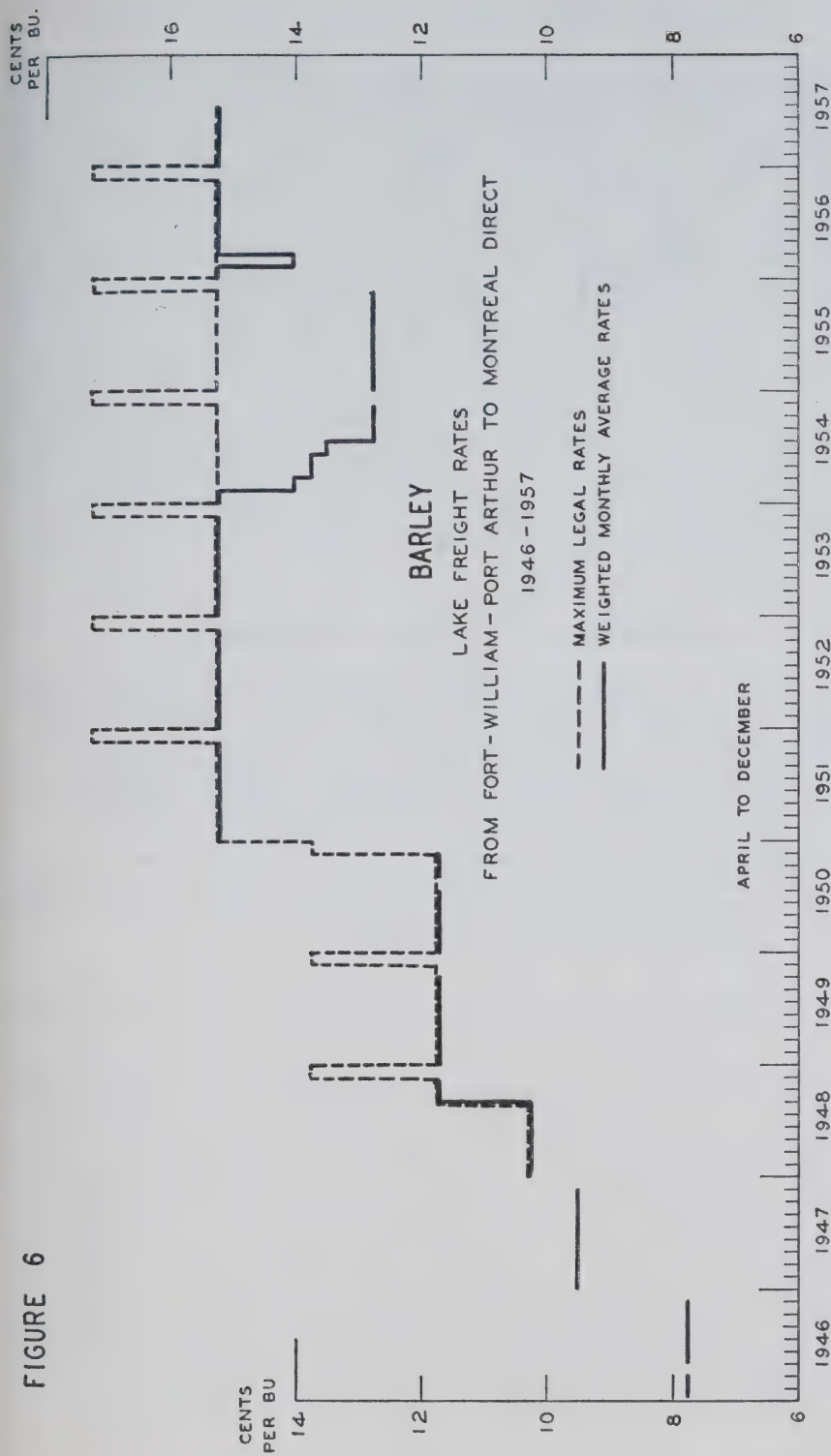


FIGURE 6



SOURCE: BOARD OF GRAIN COMMISSIONERS FOR CANADA

At present iron ore on the run to Contrecoeur is carried on a contract basis by ocean-going ships, and so are other minerals. The Commission sees no reason why there would be any greater variation in the rates when, on completion of the Seaway, the ore is carried through to Lake Erie. Moreover, the competition among these same contract carriers would appear likely to keep inland rates on grain relatively stable at low levels. In any event rate fluctuations would probably be of considerably lesser magnitude than in the present experience with overseas grain shipments and other spot cargoes on ocean routes. The Commission presumes that continued regulation of the inland rates by the Board of Grain Commissioners would prevent excessive upsurges.

The question nevertheless arises whether users of shipping service would prefer even more stable rates. Perhaps they would, if it could be demonstrated that the stable rate would be no higher than the average of variable rates over a given period of time. It is significant that, while ship operators stressed the desirability of stable rates, farm organizations and shippers generally placed little emphasis on its virtues, seeking rather continued access to other Commonwealth shipping.

D. Cabotage in Other Forms of Transportation

A number of references were made to the restrictions on cabotage in other forms of transportation, particularly air services, with the argument made or implied that similar restriction should obtain in the coasting trade. For example, the Canada Steamship Lines brief includes a section on "anti-cabotage air restrictions" and includes the following two points in its summation:

"(iii) As the Canadian coasting trade is a domestic matter, there is no valid reason for not placing it in the same position as road, rail, and air services, which, under traditional Canadian policy, are carried out by Canadian agencies operating under Canadian laws.

"(vii) Cabotage should not have one treatment for Canadian air services and another for steamship coasting services."

If these propositions were to be found valid, they might be turned against those of their authors who advocated restriction of the coasting trade to vessels not only registered but built in Canada, for, while various tariffs apply to imported equipment, no other transportation service is required to have its capital equipment made in this country. But their validity is not self-evident and would require considerable demonstration, which has not been offered. Each service operates in a different medium which imposes its own conditions on the whole nature of the service. The service conditions in turn cause concern with differing aspects of the public interest. It therefore does not necessarily follow that each form of transportation should be accorded the same treatment with respect to cabotage or any other matter.

Commercial movements by highway from point to point in Canada may be carried almost exclusively by Canadian enterprises employing Canadian labour, but if that is so it may be far more the result of practical operating considerations than of artificial regulation. Geography and the nature of the vehicle together eliminate any threat of overseas competition. The only likely source of competition is from United States operators. In general a Canadian operator may be expected to have much the same operating costs if not lower, with in most cases an important advantage in having his operating base where the Canadian business is. Regulation of highway transportation may be a further factor, but its practical effect in excluding United States competition is far from clear. Control is exercised by provincial authorities and the provisions vary from province to province. For passenger bus service, exclusive franchises are the general rule. For trucks, some provinces put certain forms of service under licence and require proof of public necessity and convenience, although other provinces do not. The regulatory limitations on competition thus have only a partial application; where they apply they limit competition generally on the above basis and not only competition from outsiders. Moreover, Part II of the Transport Act now imposes similar restrictions on some shipping services, including the need to show public necessity and convenience. No shipping interest asked the Commission for an extension but more than one sought relaxation of these provisions.

The development of railway transportation certainly raised the issue of excluding United States operators. The concern was less with giving opportunities to Canadian enterprise than with ensuring that railway connections would serve to unite British North America into one nation and not to break it up into a series of regions each tributary to the United States. The construction of the Canadian trans-continental systems largely ended such concern with railway building. Today the Railway Act gives extensive authority to the Board of Transport Commissioners to control the location, structure and physical characteristics of railways and all operations generally, as well as specific authority to regulate freight rates. United States railroads have been permitted to extend lines into Canada and across Canadian territory with the right to carry goods and passengers from place to place in Canada, subject to the same regulations that apply to Canadian railways.

Air transportation in turn has shown itself a potent new force in Canadian unity, whether from a political, commercial, or industrial point of view. As in the case of railway development it has been brought to its present status by a national policy combining both promotion and regulation. Had either the promotion or the regulation been lacking, air transport might well have developed largely as a series of separate extensions of outside services, and no integrated Canadian system would have developed. Restriction of cabotage to aircraft owned and registered in Canada is only one aspect of a larger regulatory policy that has included exclusive franchises for various services, par-

ticularly scheduled services, and a limited number of licences for other types of operation.

E. Governmental Control of Shipping

It was argued before the Commission that another merit of having vessels registered in Canada is that they are subject to governmental control when circumstances warrant, as when normal financial inducements will not suffice. For example, the Government considered it necessary in recent years to exercise such control through the Transport Controller, appointed to deal with unusual conditions arising in the marketing of western grain. The Controller was given power to regulate and control the carriage of goods in bulk, by ship or railway, for the purpose of ensuring prompt, orderly and efficient transport. The office is now vacant.

A substantial decline in the tonnage of lake vessels on Canadian registry might follow upon completion of the Seaway, in the absence of governmental action. However, it has been shown that a high proportion of the new vessels displacing them in the coasting and transborder trades would be on U.K. or other Commonwealth registry. Judging by present practices, most of these ships would be on charter to Canadian operators, who would be subject to effective governmental direction. As to other Commonwealth or foreign vessels, governmental control, if necessary, could be exercised by either economic or moral pressure. Moral pressure alone would probably be enough, since most of them would have a continuing interest in the trades in which they were engaged and would have considerable goodwill at stake. The Commission therefore feels that, while the power to control a Canadian fleet is doubtless an asset, the Government could exercise adequate control over shipping without restricting coasting trades to Canadian registered vessels.

F. National Defence

A high proportion of the submissions favouring restriction of the coasting trade argued that it would assist in ensuring a supply of vessels and crews to be needed in time of war. In some contexts this seemed to mean vessels to serve Canada's private needs, including those of the coasting trades, at a time when United Kingdom vessels might be withdrawn for service elsewhere. In other contexts the emphasis seemed to be on Canadian vessels and crews available for service anywhere. The two interests are in partial conflict but they can be reconciled.

It does not appear to this Commission that the Canadian coasting trade would suffer unwarranted reduction of services in war, even if the greater portion of cargoes comes to be carried in vessels of United Kingdom registry. Some considerable volume may be carried in Canadian vessels not suitable for ocean service, whether or not they could be spared. In a major world war

it can be assumed that Canada would be allied with the United Kingdom and other shipowning countries, and that it would be as vital to her allies as to Canada that shipping service be adequate for its role. While a lesser emergency involving the United Kingdom but not Canada might cause some withdrawals of U.K. shipping from Canadian waters, other neutral shipping could be made available by suspension of the coasting law if need be.

The need for Canadian vessels to serve elsewhere in war is no more apparent. Among our prospective allies are the largest shipowners in the world. Besides their vessels now in service there is the great "mothball fleet" of the United States, maintained for just such an emergency. The North Atlantic Planning Board for Ocean Shipping has agreed on an outline plan for the mobilization of ocean-going shipping in a single pool and its allocation on a world-wide basis in time of war or wartime emergency. The plan also provides for the establishment of an international organization of a civilian character, to be named the Defence Shipping Authority. In the event of war any suitable vessels on Canadian registry could be assigned to the pool, and Canadian-owned vessels now on United Kingdom registry under the Transfer Plan would be credited as a Canadian contribution. It does not appear that essential Canadian requirements would be in jeopardy under these arrangements.

The question arises as to what wartime role might be played by the vessels added to Canadian registry as a result of the proposed restriction. As a rough approximation it was shown above that the addition might be 136,000 gross tons on the East Coast, nil on the West Coast, whereas on the Great Lakes a fleet with an aggregate capacity of 450,000 deadweight tons might be retained.

Certainly the wartime role of the lakes fleet could be no different to its peacetime role, for it would be composed of lakers like vessel J, not carriers like vessel F on Canadian registry. Few of the vessels would be suited to service anywhere else. On the other hand it is probable that the transborder trades would employ mostly specialized carriers capable of regular ocean service, and that only the proposed restriction would prevent similar vessels on U.K. registry from replacing almost all of the Canadian lakers. Vessel F, used to typify these specialized carriers, has a cargo deadweight of 17,100 tons on seaway draughts, hence by retaining lakers aggregating 450,000 deadweight tons on Canadian registry the restriction would prevent the building of about 26 vessels F for U.K. registry. Each vessel F would have a cargo deadweight of 23,700 tons at ocean draught⁵. The gross tonnage would be approximately 71½% of this figure or 16,945 gross tons⁶. The proposed restriction of the Canadian coasting trade would thus forestall the building for U.K. registry of perhaps 26 vessels capable of regular ocean service, aggregating about 440,000 gross tons.

⁵Exhibit 201.

⁶Assuming the same ratio as typical for ex-Park vessels, i.e., 7,150 gross tons to 10,000 deadweight tons.

The 136,000 gross tons added on the East Coast to Canadian registry would represent about 30 vessels of the same average size as the U.K. vessels that would otherwise be employed. If the size distribution also remained about the same, as might be expected, 11 of the vessels would be regular ocean-going ships of about 10,000 deadweight tons. The capacities of the remaining 19 vessels would range from about 9,000 deadweight tons down to 1,300 tons, and would average about 4,250 deadweight tons. While it must be presumed that all of these vessels would be capable of crossing the ocean, since their U.K. counterparts did, a number of them would be typical coastal vessels not suitable for regular ocean service.

The proposed restriction, combined with a substantial increase in coal subventions, would ensure the retention in Canadian waters of a fleet of vessels suitable and adequate for the carriage of coasting trade in peacetime. Conversely, the restriction would result in a substantial reduction in the total allied pool of ocean-going shipping. The regular ocean-going vessels included in the tonnage added to Canadian registry on the East Coast would only replace a like number on U.K. registry, whereas the lakers retained on Canadian registry would be at the expense of a corresponding tonnage of ocean vessels on U.K. registry. From a defence point of view it appears that the latter consideration far outweighs the former, for U.K. vessels could serve the needs of either Canadian coasting trade or trans-ocean shipment, and could be transferred from one to the other as appropriate, whereas comparatively few of the Canadian vessels would be suitable for anything but coasting service.

There may be some doubt as to how great the need might be for vessels during or immediately after a war with nuclear weapons, which might be short and catastrophic. It may be nevertheless that the allies must also be prepared for a longer war, or for lesser hostilities with conventional weapons, in which shipping again would play a vital part. These considerations involve concern with both the size of the fleet at the outbreak of war and capacity to replace casualties. Shipbuilding capacity for defence is dealt with in a later chapter. Here it is enough to observe that other allies are in a far better position to ensure that the initial fleet is of adequate size. In these circumstances Canada could make her contribution to allied defence in fields in which she has a greater economic advantage. Should there be reasons not made known to this Commission for maintaining on Canadian registry a greater number of vessels than appears in prospect, this could be done more economically and more effectively by a policy of direct subsidy to the vessel operator, or by a policy of allowing owners of vessels of specified types to claim more than 100% depreciation for taxation purposes, or by other taxation relief. The comparative advantage of some of these methods are set out at the end of Chapter IX.

G. Conclusions Respecting Proposed Restriction of Canadian Coasting Trade to Vessels Registered in Canada

Restriction of the coasting trade to vessels registered in Canada would be detrimental to the public interest, whether the restriction applied generally or only to a particular part of Canada.

Applied to the eastern coasts and the Gulf of St. Lawrence, the restriction could not fail to cause a substantial increase in transportation costs for a large volume of commodities carried in the coasting trade, with similar effects in some international services. Applied to the coasting movement of coal, it would cause collapse of the Cape Breton coal industry unless offset by a substantial increase in coal subventions. In no case would there be a commensurate benefit in quality of service or in other directions, and in some cases the service might be expected to deteriorate.

Applied to the Great Lakes and St. Lawrence River, the restriction would mean moderately greater water transportation charges than would obtain otherwise in coasting trades. It would probably cause most Canadian export grain to be shipped directly overseas from the Lakehead, causing a substantial loss of coasting trade. This loss would impair the competitive position of Canadian operators in the transborder trade. It would not afford any substantial advantage in shipping service.

Applied to the Pacific Coast, the restriction would afford little or no practical benefit to Canadian operators generally or to the public and hence would lack justification.

H. Proposed Treaty with United States Respecting Trans-Boundary Trades

The submission of the Dominion Marine Association advocated restriction of the coasting trade to Canadian registered vessels, firstly "as a necessary step in the preservation of our own trade", and secondly as an essential preliminary to the negotiation of a treaty with the United States reserving the trans-boundary trade in the inland waters of the two countries to vessels registered in either Canada or the United States. The two measures were advocated as a combined assurance that the trade of Canadian and United States shipowners would not be destroyed by competition from the United Kingdom and foreign countries. The Trades and Labour Council and the National Association of Marine Engineers also advocated such a treaty.

The foregoing analysis has shown that restriction of the coasting trade to vessels registered in Canada would be detrimental to the public interest. The same can be said for restriction of the transborder trade to Canadian registered and U.S. registered vessels. The continued exclusion of outside competition in all the inland services would materially lessen the advantages to be derived from the Seaway.

The very intent of the proposed treaty is contrary to the principle espoused by Canada of freeing the obstacles to international trade. Even if it could be shown that the treaty was an exception that would promise considerable benefit to Canada, and even if it were found acceptable by the United States, it could not be signed until both countries had renegotiated the numerous treaties which extend most-favoured-nation treatment to vessels conducting international trade to and from their ports. The question of a *quid pro quo* would be sure to arise in each separate negotiation, and by the time all the bargaining would be over it is almost certain that present advantages of great moment would be lost.

I. Retention of Present Restriction on the Coasting Trade

The question arises whether not only Commonwealth but all foreign vessels should be permitted to engage in Canada's coasting trade, since economy of service is appraised as the decisive consideration. No interested party pressed for such a move, though one or two suggested that it was worthy of study. The Commission does not regard the change as advisable at this time for the following reasons:

- (a) The competition from Commonwealth vessels alone is enough to bring world freight rates with it, by and large. The admission to the coasting trade of vessels on other registries could be expected to bring little or no additional economy to shippers.
- (b) It is assumed that the United Kingdom will be allied with Canada in any future war in which this country may become involved, and that its vessels will be available for Canadian needs in the common cause, whereas obviously the same cannot be said of all foreign countries.

CHAPTER VIII

The Shipbuilding and Repairing Industry in Canada

A. History

1. Early Days to 1917

Shipbuilding is one of Canada's oldest industries. The first ship is reported to have been launched at Port Royal in 1606. As a commercial enterprise, shipbuilding dates from 1732 when a shipyard was established at Quebec on the banks of the St. Charles River. Accessible timber resources provided a natural advantage to the construction of sailing vessels in Quebec and in the Maritime Provinces. Throughout the greatest part of the nineteenth century the yards in these provinces supplied most of the vessels for the Canadian merchant marine of the day, and in addition they produced a large volume for sale to United Kingdom operators. The peak was reached in 1875 when nearly 500 ships were built in Canadian yards.

Although a Canadian yard constructed the first vessel to cross the Atlantic wholly propelled by steam (the *Royal William*, built of wood at Quebec), the Canadian shipbuilding industry declined sharply when steam-powered ships of iron and steel began to drive the sails of all nations from the sea. Nevertheless, from the latter part of the nineteenth century to World War I, additional repair and building facilities were established at a number of ports such as Halifax, Lauzon, Sorel, Montreal, Kingston, Collingwood, Port Arthur and Prince Rupert. This development was fostered by the Federal Government which built a number of dry docks and subsidized the building of others. Those built by the Government were:

<i>Name</i>	<i>Place</i>	<i>When Built</i>
Lorne	Lévis, Que. (Lauzon)	1880
Old Dry Dock	Esquimalt, B.C.	1881
Kingston	Kingston, Ont.	1889
Champlain	Lévis, Que. (Lauzon)	1914
New Dry Dock	Esquimalt, B.C.	1914

Dry docks built with the assistance of government subsidies were:

<i>Name</i>	<i>Place</i>	<i>When Built</i>
Collingwood	Collingwood, Ont.	1904
Collingwood	Collingwood, Ont.	1910
Port Arthur	Port Arthur, Ont.	1910
Montreal (floating dock)	Montreal, Que.	1912
Prince Rupert (floating dock)	Prince Rupert, B.C.	1915

Also, a tripartite subsidy was provided by the Canadian Government, the British Government and the City of Halifax for the construction, in 1886-9, of the dry dock owned by the Halifax Graving Dock Company Limited.

All this contributed greatly to the establishing of ship repairing on an adequate basis. As to the building of steamers, the industry made little progress aside from the building of a number of coasting and fishing vessels. In the words of the Canadian Maritime Commission:

"Apart from the construction of river steamers, ferry boats, tugs and small coastal vessels, there was practically no steel shipbuilding in Canada during this period. The Canadian shipbuilding industry was at a disadvantage in competing with British yards in the construction of ocean-going tonnage. It could draw neither upon the resources of a local iron and steel industry, nor upon the technical skills of a highly developed engineering industry, nor was there a domestic demand for ships such as had existed fifty years earlier".¹

2. *World War I to 1939*

Canada's shipbuilding industry, which had been reduced to little more than repair work, was revitalized during World War I. Early in 1917 the British Ministry of Shipping sent experts to investigate the possibilities of building steel ships in this country. As there were only about six shipyards actually engaged in the building of a few small ships, it was decided to expand them and to establish new ones to answer the urgent need for ships.

In 1917 the Imperial Munitions Board undertook in Canada its programme of shipbuilding. Forty-one ships ranging from 1,800 to 8,800 tons deadweight capacity were afterwards delivered to the British Government. The building of steel ships originally intended for war service was started by the Canadian Government early in 1918. Some four years later, in 1921, 63 ships aggregating 380,000 deadweight tons had been launched in 14 Canadian shipyards and taken over by the Canadian Government Merchant Marine. They were of several basic types ranging from 2,800 to 10,500 deadweight tons capacity. The completion of this programme can now be regarded as a landmark in the Canadian industry of shipbuilding as it virtually ended steel shipbuilding for that period. Table I below shows the sharp drop in the number and tonnage of vessels delivered after 1921. Indeed, from 1922 to 1930, there were only 51 steel self-propelled merchant vessels delivered by Canadian shipyards, representing 132,410 gross tons, and 2 naval vessels with a total displacement of 634 tons. From 1931 to 1939 inclusive there was an almost total cessation in the output of ships. During this period there were only 16 vessels built in Canadian yards.

Table II gives shipyard production and employment for most years since 1918. Employment averaged around 5,000 employees in the twenties, did not exceed 3,600 in the thirties and reached a low of 2,254 in 1933. It is to be noted that these figures include all employees whether of the yard force

¹*Second Report of the Canadian Maritime Commission, 1949, p. 12.*

The Shipbuilding and Repairing Industry in Canada

TABLE I

Steel Self-propelled Vessels Delivered by Canadian Shipyards 1914 to 1956¹

Year	Merchant Vessels ²		Naval Vessels	
	Number	Gross Tons	Number	Displacement Tons
1914	6	24,916	40	11,716
1915	1	733	255	75,228
1916	7	21,770	9	3,600
1917	6	20,580	32	9,421
1918	19	49,703	55	16,085
1919	25	99,188		
1920	16	62,095		
1921	17	76,661		
1922	2	9,417		
1923	4	6,053		
1924	3	15,997		
1925	5	13,990		
1926	9	20,325		
1927	6	16,458		
1928	7	17,261		
1929	7	20,404	2	634
1930	8	12,505		
1931	2	6,992		
1932	1	1,231	1	157
1933	—	—	1	140
1934	1	531		
1935	—	—		
1936	—	—		
1937	1	1,585		
1938	4	3,820	2	886
1939	2	1,958	1	140
1940	1	2,238	14	12,387
1941	2	8,310	71	64,932
1942	84	602,045	50	44,490
1943	144	971,791	70	82,946
1944	122	774,384	97	120,808
1945	38	186,774	68	344,157
1946	31	52,028	1	2,390
1947	23	83,607	1	2,390
1948	48	132,363	1	2,390
1949	20	66,758		
1950	16	39,459		
1951	4	29,393	3	404
1952	8	81,005	4	1,565
1953	11	74,631	4	1,777
1954	11	105,840	9	3,420
1955	9	30,707	2	3,385
1956	13	11,540	7	9,430
Total	744	3,757,046	800	814,448

¹From the *Ninth and Tenth Reports of the Canadian Maritime Commission*, 1956, 1957.

²Includes cargo and passenger vessels. Does not include government vessels such as icebreakers, tenders, etc.

or of the office staff. The survey from which they are taken includes all yards, major as well as minor. It was owing primarily to repair work and other industrial activities that employment did not fall even lower in this twenty-

TABLE II
Employment and Production in the Canadian Shipbuilding Industry
Selected Years 1918 to 1955¹

Year	No. of Establishments	Average No. of Employees	Net Value of Production ²						
			Shipbuilding		Ship Repairs		Other Activities		Total
			\$000	%	\$000	%	\$000	%	\$000
1918	90	21,705	62,495	83.5	8,038	10.8	4,266	5.7	74,799
1919	78	23,702	75,086	86.9	8,283	9.5	3,121	3.6	86,490
1920	82	14,847	46,458	84.8	6,843	12.3	1,525	2.9	54,826
...									
1925	38	5,278	3,042	24.9	5,700	46.5	3,500	28.6	12,242
...									
1929	41	5,297	5,202	29.7	6,691	38.3	5,600	32.0	17,493
...									
1933	38	2,254	676	15.0	2,861	63.3	985	21.7	4,522
...									
1936	37	2,801	407	6.6	4,957	79.9	841	13.5	6,205
1937	40	3,502	1,607	15.5	6,125	59.2	2,629	25.3	10,361
1938	41	3,596	3,784	33.9	6,099	54.6	1,288	11.5	11,171
1939	43	3,491	2,271	20.2	7,744	68.9	1,220	10.9	11,235
1940	47	9,707	29,196	65.3	13,078	29.3	2,417	5.4	44,691
1941	65	21,240	85,638	78.3	19,901	18.2	3,788	3.5	109,327
1942	79	50,132	208,714	86.1	27,734	11.5	5,690	2.4	242,138
1943	87	75,847	334,491	88.7	34,383	9.3	7,707	2.0	376,581
1944	94	67,076	245,020	74.4	63,104	19.2	21,176	6.4	329,300
1945	89	48,118	149,629	73.2	44,338	21.6	10,627	5.2	204,594
1946	79	20,246	54,902	59.8	28,645	31.2	8,304	9.0	91,851
1947	74	21,119	60,424	54.9	42,077	38.2	7,630	6.9	110,131
1948	76	18,399	64,095	60.0	31,084	29.1	11,604	10.9	106,783
1949	80	12,562	36,668	48.5	27,613	36.5	11,320	15.0	75,601
1950	76	11,454	26,155	41.1	27,012	42.4	10,510	16.5	63,677
1951	76	14,836	43,306	45.5	35,123	36.9	16,790	17.6	95,219
1952	74	20,676	82,574	51.9	47,579	29.9	28,905	18.2	159,058
1953	79	22,571	95,311	52.0	62,787	34.3	25,117	13.7	183,215
1954	76	19,356	89,146	56.9	44,881	28.7	22,580	14.4	156,607
1955	70	16,829	67,971	50.8	42,075	31.4	23,791	17.8	133,837

¹The Shipbuilding Industry (DBS) with early data supplied by DBS.

²Value of work done during the year.

year period. In fact, ship repairing was a higher and far more stable source of revenue than shipbuilding, the net value of production having been maintained at \$5 million to \$6 million for most of those years. Other activities, though of lesser importance than repairs, helped to keep the shipyards going. For many of the years during this period these subsidiary activities represented over 25% of the value of production in shipyards. To sum up, the shipyards that survived the inter-war period had become repair yards and engineering workshops.

3. World War II and After

Following the years of extreme depression, the Canadian shipbuilding industry again was called to intense activity by World War II. By February of 1940, the Canadian Government had ordered 64 corvettes and 14 mine-sweepers. In addition to naval vessels, Canadian shipyards were called upon to build merchant ships. The programme began in the autumn of 1940 when the United Kingdom authorities placed orders for a number of 10,000 ton ships. A few months later under the Hyde Park Agreement, the U.S. Government followed with further orders for merchant vessels to be delivered to the United Kingdom under lend-lease. During the war years Canadian shipyards built about 400 naval vessels, 398 merchant ships of various types, and thousands of smaller craft such as tugs, patrol boats, scows and lighters.

At first there was slow progress in ship construction but in 1942 Canadian shipyards delivered 84 merchant ships and 50 naval vessels. The peak was reached in 1943 when 144 merchant ships were launched, representing 971,791 gross tons. During the same year Canadian shipyards delivered 70 naval vessels, and employment reached its peak with more than 75,000 employees.

This large output involved a tremendous expansion not only for the shipbuilding industry but also for ancillary industries producing component parts, for which before the war Canadian shipyards relied greatly on foreign imports. It has been estimated that by the end of 1943 there were 300 plants in Canada supplying marine engines, shaftings, boilers, superheaters, winches, steering gears, propellers, electric generators and other parts.

Another notable contribution by Canada to the war effort of the allied nations was ship repairing. This aid was facilitated by the construction of new piers, marine shops, marine railways and large floating dry docks for sea-going vessels. During the war years many thousands of allied ships were repaired and restored to service by Canadian shipyards. The value of all such ship repairs performed during the war is indicated in Table II above.

After the cessation of hostilities there was for some time a substantial demand for new vessels despite the fact that the world pool of shipping was larger than at the start of the war. Shipyards in Europe were not operating at full capacity because of war damage, and U.K. yards were booked up for several years ahead. In this situation Canadian yards received orders for foreign as well as domestic delivery. Seventy-five per cent of the shipbuilding orders on hand in 1946 were for foreign buyers. Orders for passenger and cargo vessels came from France, Holland, Portugal, Brazil, China, Argentina and Venezuela. Shipbuilding activity in Canada remained high until 1948 when 48 merchant vessels were delivered. By that time shipbuilding industries abroad were restored to their full capacities, price considerations became more important than early delivery, and foreign demand for the building of ships in Canada virtually ceased. Domestic requirements were not sufficient to

maintain a high level of operations in Canadian shipyards. Employment fell by nearly one-third from 1948 to 1949, and reached a low of 11,454 in 1950, although Table I shows that 20 merchant vessels were delivered in 1949 and 16 in 1950.

The outbreak of hostilities in Korea in June of 1950 was followed by defence preparedness orders, which were a major factor in bringing a new post-war high in the number of employees and in the value of annual production, as may be seen from Table II. Orders for the construction of new naval vessels and the reconditioning and conversion of old ones accounted in some cases for one-half to three-quarters of the total business activity of the major shipyards. The Canadian yards were called upon to build destroyer-escort vessels and minesweepers. The design of the former was developed in Canada, an historic first for warships.

The naval programme stimulated activity on the east and west coasts and on the St. Lawrence. Activity in the inland yards was well maintained by commercial orders for lake vessels. However, by 1955, when the Commission was appointed, work on the naval orders had been slowed down and employment was once more declining throughout the industry.

For a time during 1956 and the first months of 1957, the situation in Canadian shipyards was comparatively favourable. Freight rates were high and there was a strong world-wide demand for new cargo vessels and tankers. Ability to offer early delivery appeared once more to be working to the advantage of Canadian yards. The *Tenth Report of the Canadian Maritime Commission*, covering the year ending March 31, 1957, stated that within the preceding few months the industry had obtained contracts to build eleven merchant vessels of approximately 205,000 deadweight tons valued at \$57,918,000. Eight of the merchant ships on order, with an average capacity of more than 19,000 deadweight tons, were for ocean-going service. These included both ore vessels and oil tankers, two of the latter being of 40,000 deadweight tons each.

Since then the situation has changed, one of the manifestations being a continuous and steep decline in freight rates. While the shipbuilding industry will be busy for some time on the work on hand, no further orders of importance have been booked except for lake ships and the naval programme is nearing completion.

B. Government Policy Respecting Shipbuilding

Financial Contributions

At the beginning of the present chapter it was shown that the Government played an important part in the setting up of dry docks in Canada. Even after World War I, in addition to the dry docks mentioned earlier, it contributed to the building of two new ones, one at Saint John, N.B., in 1923 and a floating

dock at Vancouver in 1925. From 1880 to date, the Federal Government spent nearly \$50 million for the outright building or the subsidizing of the construction of dry docks.

Reference has been made to orders placed by Government for merchant and naval vessels both during and after the two World Wars. Not only did this constitute in itself an important aid to the industry, but subsequently a number of shipyards were able to improve their equipment by acquiring war-time shipbuilding facilities on advantageous terms. Where such facilities were provided out of capital owned by the shipbuilding companies themselves, they, like other Canadian munitions producers at the time, enjoyed the benefit of accelerated depreciation policies. Where such facilities were initially provided by the Government, they were later sold to the yards at a fraction of the original wartime cost. In either case, the shipbuilding industry, like other industries in Canada and elsewhere called upon to incur the financial risks of expanding their operations during the war, eventually found itself in the position of having acquired at a greatly reduced price additional or improved equipment of continuing value.

Government has also financially assisted shipyards by having most of the vessels required by various departments or government agencies built in Canada.

Protection Policies

Tariff protection, such as is provided for many secondary industries, has been extended only in a very limited way to the Canadian shipbuilding industry. As was shown in Chapter II, a duty of 25% is imposed on the importation of ships built outside the Commonwealth to be used in the coasting trade. This duty affords no protection against United Kingdom competition, as vessels built in any part of the Commonwealth can enter duty-free. The effect of the 25% duty is thus to protect U.K. yards against foreign competition. Some assistance to Canadian shipbuilders is provided, however, by a drawback of 99% of the duty paid on goods and materials imported and subsequently used in the construction of ships here. Also no federal sales tax is imposed on the ships themselves or on materials used in their construction.

The enactment in 1950 of Section 22 of the Canada Shipping Act brought to Canadian shipyards a certain degree of protection by preventing the placing of old ships on Canadian registry. It is very difficult to assess the impact of this restriction on Canadian shipbuilding. However, from 1950 on, the increase in the Canadian Great Lakes fleet was effected mostly through new construction in Canada. This is in marked contrast with the situation which prevailed from 1945 to 1950, when the Great Lakes fleet had been increased mostly through the importation of second-hand vessels from the United States.

Canadian Maritime Commission

Reference was made in Chapter V to the role played by the Canadian Maritime Commission with respect to shipping and shipbuilding activities. As in the case of shipping, the Maritime Commission has been active on behalf of the shipbuilding industry. Measures to assist the industry were taken following extensive investigations by that body, which was charged with administration of such matters.

After considering the arguments for and against the maintaining of the Canadian shipbuilding industry, the Canadian Maritime Commission concluded at an early stage of its activities that it was advisable for security reasons to maintain a nucleus capable of rapid expansion in time of need². The Canadian Maritime Commission further concluded that the average monthly employment in the industry should not fall below 7,000 men, of whom it was expected that roughly one-half would normally be engaged in ship construction and the other half in repairs and conversion. In point of fact, as shown in Table III below, average monthly employment in Canadian shipyards has remained well above the nucleus figure.

TABLE III
Average Monthly Employment in Canadian Shipyards 1946 to 1956¹

Year	Number of Yards Reporting	Pacific Coast	Great Lakes	St. Lawrence	Atlantic Coast	Total
1946	16	4,988	2,148	6,272	2,991	16,399
1947	16	4,119	1,485	8,874	2,657	17,135
1948	16	2,949	2,308	8,045	1,976	15,278
1949	16	1,496	2,168	4,230	1,937	9,831
1950	17	1,100	2,202	3,892	1,336	8,530
1951	19	2,080	2,803	5,237	1,913	12,033
1952	19	2,595	3,591	8,092	2,909	17,187
1953	20	2,547	3,082	10,490	3,511	19,630
1954	19	2,555	1,994	7,407	3,544	15,500
1955	17	2,566	1,267	5,448	3,151	12,432
1956	17	3,544	1,494	6,096	2,757	13,891

¹From the *Reports* of the Canadian Maritime Commission. The above figures relate to employment in the major yards only, while Table II covers the employees of all establishments classified as belonging to the shipbuilding industry. Thus, the figures given in this table are more relevant for comparison with the nucleus envisaged by the Canadian Maritime Commission.

Co-ordination of Government Orders

To assist in the preservation of a nucleus of employment in shipyards, the Canadian Maritime Commission is charged with co-ordinating government shipbuilding requirements. Naval orders for construction and repairs are allocated to the shipyards recommended by the Commission. Other govern-

²*Second Report of the Canadian Maritime Commission*, 1949, p. 47.

mental orders cannot be so allocated because of Section 36 of the Public Works Act requiring the calling of public tenders.

The recommendations made by the Canadian Maritime Commission have to date resulted in the allocation of shipbuilding to the value of approximately \$360,000,000 and of repairs and conversions totalling over \$122,000,000.

Replacement Plan

A brief summary of the Replacement Plan and its operation was given in Chapter V. The administration of the plan has channelled most of the escrow funds to Canadian shipyards. This appears to have been the main objective in practice, rather than the construction of modern replacements for the ocean vessels. Thus from the inception of the plan in 1948 to November 1953 escrow funds were used only for replacement in Canadian yards. When the assignment of funds to other users was permitted at an early date, escrow money was released for the building of coastal vessels including lakers.

The use of escrow funds for the construction of lake vessels is no longer approved. It is not certain that this use of the funds caused ships to be built that would not have been built in Canada in any event, although the fact that assigned funds could be had at a discount may have had this effect in combination with other factors, such as the advantages provided by the Canadian Vessel Construction Assistance Act. The Canadian Maritime Commission at no time allowed more than one-third of the cost of a coasting vessel to be met by assigned escrow funds. If a shipowner operating on the Great Lakes bought at a 10% discount an assignment of funds covering one-third the cost of a laker, the total cost of the new ship would be reduced by approximately 3%, which was probably about the maximum advantage he could derive from the plan.

Since 1953 approval has been given for the expenditure of some escrow money for the acquisition of ships elsewhere than in Canada. Nevertheless, out of \$77,660,000 net proceeds of sales deposited in escrow up to March 31, 1957, \$60,614,000 was spent in Canadian yards. The disposition of the net amount deposited may be summarized as follows:

Canadian Yards

Construction of ocean-going vessels	\$31,388,000	
Construction of coasting vessels	26,393,000	
Conversion and major alterations	2,833,000	\$60,614,000

Outside Canada

Construction and acquisition of new vessels		2,698,000
--	--	-----------

Miscellaneous

(acquisition in Canada and other approved uses)		1,581,000
--	--	-----------

Unused balance on March 31, 1957.....		12,767,000
		<u>\$77,660,000</u>

Canadian Vessel Construction Assistance Act

Another device for promoting the construction of ships in Canadian yards is the Canadian Vessel Construction Assistance Act (C.V.C.A. Act). The owner of a vessel constructed and registered in Canada since January 1, 1949, is given preferred treatment with respect to depreciation and recapture of depreciation where a ship has been subsequently sold. Like benefits attach to major alterations carried out in Canada since that date. These benefits constitute an inducement to have a ship built or major alteration done in a Canadian yard.

Under this Act, the owners of a vessel constructed and registered in Canada since January 1, 1949, may claim annual depreciation for federal income tax purposes at $33\frac{1}{3}\%$ on its original cost, whereas the maximum allowance for other vessels is 15% on the diminishing balance. The benefits of this provision have been discussed in Chapter VI. It is of interest to note further that the Canadian Maritime Commission interprets the Act as permitting an owner to claim capital cost allowances on progress payments made during the course of construction. In other words, depreciation may be claimed while the ship is being built. This is important in the case of large vessels where construction may extend over more than one taxation year. Conversion and major alterations are also allowed to be depreciated at $33\frac{1}{3}\%$.

The Income Tax Act allows as an expense to the taxpayer exactly what an asset has cost him over its useful life. The annual depreciation charge is an estimate and when the asset is sold the correct figure is obtained, and any necessary adjustment effected. Thus, when an asset is sold for less than its undepreciated capital cost or depreciated value (capital cost, minus depreciation claimed and allowed) the difference amounts to an additional depreciation and can be claimed as an expense. On the other hand, if the sale price is higher than the undepreciated capital cost, this means that the annual depreciation charges have been too large. The excess is then "recaptured", i.e. added to income. The Canadian Vessel Construction Assistance Act stipulates that there will be no recapture of excess depreciation on ships which were allowed accelerated depreciation to the extent that the proceeds of disposition are used for replacement under conditions satisfactory to the Canadian Maritime Commission. One of these conditions is that the replacement be made from a Canadian shipyard.

Another provision of the C.V.C.A. Act allows the creation of what is known as "reserves for quadrennial surveys". In general, the Income Tax Act allows a taxpayer to claim an expense only when the goods have been received or the services performed. It does not permit the anticipation of a disbursement by the setting up of what is called a "reserve for future disbursements". Expenses for quadrennial surveys would accordingly be allowed only when the disbursement is made. As an exception to this general rule, shipowners are allowed, by virtue of the C.V.C.A. Act, to anticipate such expenses by the

creation of what is known as "Reserve for expenses of quadrennial surveys". As the surveys are not required to be made in Canada and as they apply to any ships wherever built, this section of the Act is of no special benefit to Canadian shipbuilders.

Up to the end of 1956, the ships and capital cost on which special depreciation has been allowed are as follows:⁸

	<i>Number</i>	<i>Amount</i>
Cargo vessels	62	\$ 87,304,000
Dredges, scows and barges	149	11,865,000
Tugs, fishing vessels, ferries, etc.	126	7,075,000
Conversions and major alterations	115	18,786,000
		<u>\$125,030,000</u>

C. Prospects

The above brief study of the history of shipbuilding in Canada and of government policy affecting it shows that the industry experienced wide fluctuations of activity. It grew and flourished in the days of wooden ships, when it had a natural advantage in accessible raw materials; with the advent of steel steamships it declined to become little more than a repair industry. It was revived from this condition only during two periods of world war, when both the building and the repairing of ships became major parts in the defence effort. The decline in activity following World War II was again substantial, although the level has remained high by comparison with the peacetime experience of this century.

Activity in the shipbuilding industry will not long remain at its present level, unless there is a repetition of the circumstances which brought construction orders to Canadian yards. In the absence of further governmental assistance, the longer term prospect is that the industry will build few ships and that it will depend largely on repair and other activities.

Shipbuilding

Practically all those giving information to this Commission about the relative costs of shipbuilding agreed that costs in Canada were substantially higher than in the United Kingdom. It will be sufficient for the present purpose to take the United Kingdom as the principal basis for international comparisons. The shipbuilding industry in that country is the largest in the world and the strongest competitor that Canadian shipyards have to meet. It is obliged to compete in international trade with the industry in other maritime countries, and continues to demonstrate its ability to do so on an export basis.

⁸From the *Tenth Report of the Canadian Maritime Commission*, 1957.

Furthermore, it enjoys tariff and other preferential advantages in the Canadian market over shipbuilders in all non-Commonwealth countries.

The Commission has made every effort to obtain estimates regarding the range of relative costs from all who were willing and able to supply them, and is prepared to accept the estimate that, as of 1957, Canadian construction costs and prices could be regarded as exceeding those of the United Kingdom by not less than 50%. In this finding it relies upon the consensus of opinions of a number of able and experienced informants. Costs in both the United Kingdom and Canada have increased since these opinions were given in 1955, but it is believed that these changes would not invalidate the conclusion.

Among a score of estimates received from various witnesses, summarized in Table IV below, there was naturally a wide variation. The Commission does not regard this fact as seriously reflecting on the ability and accuracy of any of the witnesses involved. The individual comparisons related to different dates, different types of vessels, different shipyards, and different circumstances. A ship is not a standardized commodity like a filing cabinet or a pound of butter. It is an extremely complicated product, subject to continual modifications, and ordinarily designed and made to individual order for a specific purpose. If different shipyards quote on a particular vessel, each one quotes a basic price in relation to its own circumstances and need of business at the time. Most quotations provide for escalation in accordance with changes in costs of labour and materials during construction. Qualified and experienced informants agreed that it would be quite impracticable to ascertain precise differentials by calling for theoretical cost or price estimates from a number of different yards on a hypothetical ship which they do not expect to have the opportunity to build.

The most important reason given for the higher costs of shipbuilding in Canada is the cost of shipyard labour, which in turn reflects prevailing wage rates and hours of labour (including overtime), the skill and efficiency of the individual craftsman, and the extent to which his productivity has been increased by mechanization and good management. Costs of material and overhead are also important factors, the latter being likewise affected by labour costs and the extent of utilization of facilities.

Wages in the industry vary considerably in different parts of Canada, the lowest rates being reported in Quebec and the highest in British Columbia. On the average they are about $2\frac{1}{2}$ times as high as corresponding rates in the United Kingdom, but they do not appear to be out of line with the rates paid for similar trades in other industries in the same general localities.

As a general principle, it may be agreed that high wage rates do not necessarily result in proportionately high labour costs. It has been suggested

The Shipbuilding and Repairing Industry in Canada

TABLE IV

Summary of Evidence Obtained in Connection with Relative Construction Costs in Canadian and United Kingdom Shipyards

The Commission has received many estimates of the difference between United Kingdom and Canadian ship construction costs, and those regarded as most significant have been listed and classified in the following table. In references, figures following the letter T relate to pages of the transcript of evidence.

Source	Estimated percentage excess of Canadian over U.K. costs stated by witness or calculated from given data	Notes
1 Canadian Maritime Commission (1949) Second Report, pp. 38-40	82 to 100	General estimate
2 T. S. McLanders (Dominion Steel & Coal Corp.) T. 1099	133	General estimate
3 R. K. Thoman (Canadian Vickers) T. 4275	140% higher than recent German prices	Based on recent experience in export competition
4 A West Coast ship operator	100	Based on competitive quotations for a specific vessel
5 Milne, Gilmore & German Details confidential	90	Difference between average of three Canadian and four U.K. tenders; ship built 1951-53
6 Milne, Gilmore & German Details confidential	33	Difference between average of three Canadian and three U.K. tenders; ship built 1953-55
7 F. Paul-Hus (Marine Industries Ltd.) T. 5053	59 or 60	General estimate
8 George R. Wyer (Canadian Fairbanks-Morse) T. 3268	43 to 67	General estimate
9 R. Lowery (Canada Steamship Lines) T. 4986	50 or more	General estimate
10 R. Lowery, Exhibit 200	50	"Thunder Bay"
11 H. E. Gorick (General Council of British Shipping) Exhibits 243 and 200	9½	"Thunder Bay"
12 R. Lowery, T. 5019	53 to 70	Various tramp ships

TABLE IV (concl.)

Summary of Evidence in Connection with Relative Construction Costs
in Canadian and United Kingdom Shipyards (concl.)

Source	Estimated percentage excess of Canadian over U.K. costs stated by witness or calculated from given data	Notes
13 J. A. S. Peck (Canadian Vickers) Exhibit 206 T. 5041	50	Based on detailed calculations for a typical ship—also quoted estimates of 54½ % and 59½ %
14 Stanley D. Clarke (Clarke Steamship Co.) T. 3482	50	General estimate
15 T. R. McLagan (Canada Steamship Lines) T. 4975	50	General estimate
16 Milne, Gilmore & German Report to Commission (Appendix XIII)	50	General estimate
17 Capt. Scott Misener, T. 388, and Shipbuilding Conference, Exhibit 214	21 to 43	"Scott Misener"
18 C. A. Crosbie (Chimo Ship- ping Ltd.) T. 821	25	General estimate for smaller ships

in evidence given before the Commission that the relatively high wage rates prevailing in Canada might, theoretically, under favourable circumstances, be compensated for by greater productivity per man hour. Thus it is well known that in some industries, manufacturers in the United States pay what are probably the highest money wages in the world yet successfully compete in world markets with producers in countries characterized by relatively low wage rates. This state of affairs may result from access to cheap materials and power, superior management and design, quantity production, high degree of specialization, capital investment and mechanization, low unit costs of materials or overhead, or other advantages enjoyed by the high-wage country.

It is, however, no criticism of the people engaged in the Canadian shipbuilding industry to say that such advantages capable of counterbalancing the relatively high wage rates do not exist. Shipbuilding in general does not adapt itself to mass production techniques to the same degree as the production of automobiles, newsprint, chemicals, or agricultural imple-

ments. Ships last for many years and tend to be built to individual order for a specific kind of trade. In other words, a ship is not a product which can avail itself of the economies of large scale production but is a tailor-made product. While wage rates are in line with those generally prevailing in this country, they are too high to permit Canadian shipyards to compete with those of the United Kingdom, or in fact with any other shipbuilding nation, with the notable exception of the United States.

Apart from labour costs, the principal costs of production are those for overhead and materials.

Overhead costs (including those of supervision, interest, depreciation, repairs, and property taxes) also reflect labour costs. Information received by the Commission indicates that the percentage difference between overhead costs in Canada and in the United Kingdom is at least as great as the corresponding difference between direct labour costs: and indeed, since the number of ships built per unit of capital equipment is likely to be less in Canada than it is in the United Kingdom, the difference between Canadian and United Kingdom overhead costs per unit of output is probably even greater than that between direct labour costs.

The costs of domestically produced materials and components, of which the most important are steel plates, also tend to reflect the higher Canadian costs of direct labour and overhead.

From a long-term point of view, so long as the shipbuilding cost differential between Canadian and United Kingdom shipyards continues to be of the order of 50%, the prospects of construction of new merchant vessels in Canada in competition with the United Kingdom are poor.

Ship Repairing and Miscellaneous Production

It has already been mentioned in the present chapter that the work performed in Canadian shipyards is not limited to the construction of new vessels but also includes ship repairing and a variety of engineering work. Table II shows that these two activities have in time of peace been far more important than the building of ships.

From 1945 to 1955 the value of ship repairing has ranged from a low of \$27 million in 1950 to a high of nearly \$63 million in 1953, averaging about \$40 million a year. It constituted more than 30% of the total value of work performed in the shipyards of Canada during the same period and, in spite of fluctuations, has been considerably more stable than the value of new construction. The volume of such work in eastern waters and in the Great Lakes may be expected to increase with the prospective rise in the volume of traffic after the opening of the Seaway.

Many Canadian shipyards have diversified their activities by embarking upon the production of a variety of additional articles, more or less closely related to their principal business. Reasons for this diversification include

the desire to retain staff by providing additional employment, to make some contribution towards reducing seasonal and cyclical fluctuations of shipbuilding activities, to make fuller utilization of such general facilities as machine, metal-working and woodworking shops, power plant, drafting rooms, selling and administrative organization, and generally to absorb some part of the overhead costs which may not be fully and continuously utilized by shipbuilding and ship repairing activities.

Among the multitude of such subsidiary activities may be cited the production of boilers, sheet metal products, general engineering products such as equipment for the pulp and paper and chemical industries, structural steel, box and tank cars for railway use, hydraulic and printing presses, rock crushers, turbines, drilling machines, log peelers, and wooden furniture. Table II shows that these activities have since 1949 averaged 16% of the gross value of production in the industry. The volume as well as the proportion of such activities is expected to increase as more of the shipyards have recently opened what they called "General Engineering Divisions". There are limitations, however, to the extent to which such activities can be expanded in conjunction with ship repairing and shipbuilding.

CHAPTER IX

Proposed Restriction of Coasting Trade to Vessels Built and Registered in Canada

A. Introduction

The chief advocate of restricting the coasting trade to vessels built and registered in Canada was the Canadian Shipbuilding and Ship Repairing Association, which urged the Commission to recommend:

- “(i) that from henceforth the coasting trade of Canada shall be reserved to ships registered in Canada;
- “(ii) that from January 1, 1957, (or some other convenient date in the near future), replacements of, and additions to Canada's coasting fleet be built without exception in Canadian shipyards.”

The association's request was supported by supplemental briefs or appearances on behalf of ten member shipyards.

Three shipping firms asked that the restriction apply to vessels built as well as registered in Canada. Canada Steamship Lines Ltd., which operates the largest Canadian fleet on the Great Lakes and which also owns out-right five shipyards,¹ urged restriction in terms closely parallel to those of the Canadian Shipbuilding and Ship Repairing Association. Branch Lines Ltd. and British Yukon Ocean Services Ltd. specifically associated themselves with the submission of this association. Branch Lines Ltd. described itself as owning and operating a number of tankers, tugs, and barges, and as being affiliated with Marine Industries Ltd., a member of the association. British Yukon Ocean Services Ltd. began operations in 1955 on the West Coast with one vessel of special design, built in Canada. Other ship operators opposed or failed to support restriction to vessels of Canadian build, although a witness for Dominion Marine Association indicated that it would be acceptable if associated with consummation of a treaty with United States restricting trans-lake trade to vessels of Canadian and United States registry.

Some sixteen suppliers to the shipbuilding industry supported the proposed restriction, including the Algoma Steel Corporation Limited and Canadian Westinghouse Co. Ltd. Supporters included also the national labour federations and a number of other labour groups, and several shipbuilding communities or associations from those communities.

The argument for restricting the coasting trade to vessels built and registered in Canada was based almost entirely on the value of a ship-

¹Transcript p. 3851.

building industry in time of war. Thus the Canadian Shipbuilding and Ship Repairing Association stated in its written submission:

"We believe that these are the minimal provisions by means of which our shipyards can be kept alive and efficient. We rest our case not presuming that the Canadian shipyards are entitled for their own sake to special consideration in this regard. We say that these yards are vital to the defence of freedom. We claim that when understood rightly, the needs of Britain are the same in this respect as the needs of Canada. Vital to the continued existence of both Canadians and Britons is the maintenance on this continent of a shipbuilding industry capable, when war is imminent, of swift expansion."

The general argument was to the effect that the Canadian shipbuilding industry is threatened with collapse, that it should be maintained at an efficient operating level as a measure of defence preparedness, that this requires an assured flow of orders for new construction, and that the proposed restriction would be an appropriate method of providing a minimum volume of commercial orders, a method involving no outlay of public funds.

A number of reasons were given for the paucity of orders for vessel construction and for the fear that completion of the St. Lawrence Seaway would reduce the demand for Canadian-built ships on the Great Lakes. Underlying all was the acknowledged fact that the cost of construction in Canadian yards is substantially higher than in other yards of the free world, with the notable exception of the United States. It was conceded accordingly that the proposal to restrict the coasting trade to Canadian-built vessels would raise economic issues involving "the sometimes conflicting interests of shippers and consignees of cargo, ship owners, ship operators, and shipbuilders."² It was argued that there is in fact no such disharmony between the real needs of the persons concerned nor between Canadian interests and United Kingdom interests, that what matters most from all points of view is the maintenance of an efficient Canadian shipbuilding industry capable of swift expansion. "Our chief concern is thus, not with a little more or less to be charged for cargo shipped currently, but with the means of defence, and capacity to survive henceforward, on which not only Canadians, but free men everywhere must depend."²

Eight provincial governments opposed restriction of the coasting trade to vessels registered in Canada or built and registered in Canada. The Governments of Newfoundland and Prince Edward Island and each of the four western provinces presented briefs and oral argument. Nova Scotia and New Brunswick joined the other two Atlantic provinces in officially endorsing³ the brief submitted by the Maritimes Transportation Commission, which described itself as "an organization authorized and supported by the governments of the provinces of Nova Scotia, New Brunswick, Prince Edward Island and Newfoundland and affiliated with the Maritime Provinces Board of Trade." The Governments of British Columbia and

²Brief of the Canadian Shipbuilding and Ship Repairing Association.

³Letters reproduced as Exhibits 182 and 208 respectively.

New Brunswick stressed the importance of shipbuilding in their regional economies, but asked for assistance in a form that would not increase transportation costs. The Governments of Ontario and Quebec made no representations.

Among other opponents of the restriction were some nineteen users of shipping services or user associations, including the Dominion Steel and Coal Corporation Limited, the Aluminum Company of Canada Limited, and the Canadian Pulp and Paper Association, seven farm organizations including the Canadian Federation of Agriculture and other prairie groups, and several boards of trade or chambers of commerce. The opponents took their position because of the higher transportation costs that would follow from the enforced use of vessels built in Canada and operated on Canadian registry. There was little examination of the defence argument, but it was suggested that if this argument was valid then other forms of assistance to shipbuilding should be considered, including direct subsidy if necessary. The Canadian Federation of Agriculture questioned the defence argument directly. At the final hearing in Ottawa it was argued that preparedness should emphasize defence against vessel sinkings rather than the provision of extra replacement capacity.

B. Shipbuilding and National Defence

The proposal to restrict the coasting trade to vessels built and registered in Canada raises two separate issues. The fundamental one is whether the Canadian shipbuilding industry should be maintained at a level of activity substantially higher than is in prospect without additional assistance. The second issue is whether the proposed restriction would be an appropriate method of providing assistance.

The justification advanced for supporting the industry is its defence value should a major war break out. A judgment of this value must take account of the fact that Canada is associated with other free nations in efforts to avoid war and in preparation for mutual defence in case of attack. Canada need not be self-sufficient in every defence requirement but may be selective in the measures to be undertaken. Whether additional shipbuilding capacity would be an appropriate contribution depends on a number of considerations, including an appraisal of how great may be the danger of war and the part that shipbuilding industries of the free world might be called upon to play if war should break out.

At the one extreme, a war opened with an all-out nuclear attack and ending in a few weeks might involve scant concern with shipbuilding. The actual prosecution of war might not make unusual demands on shipyards and might not involve great loss or damage to either shipping or shipyards, as they would not likely be prime targets. In view of the appalling possibilities of mass destruction, there may be a possibility that post-war rehabili-

tation would involve an increased demand for new shipping, but on the assumption of extensive devastation it is more likely that shipping demand would only develop along with a general revival of other industrial production, which would be the more critical factor.

There is currently some doubt whether an enemy would attack population centres with nuclear weapons, for fear of devastating reprisal in kind. Again, there must be doubt as to whether an all-out nuclear war would in fact end quickly, a doubt that will grow as defences against the missiles are improved further. The longer it would take to end a war the more likely that shipping and shipyards would again become major targets, because of allied dependence on sea communications. In these circumstances a large shipbuilding demand might arise again for naval and merchant vessels, not only to replace and refit those lost or damaged but also to expand the fleet to meet the additional requirements of wartime supply. Even so, the extent and the urgency of the demand would depend greatly on the balance of advantage between attacker and defender at sea, which would determine the rate at which losses would have to be replaced.

The wide range of uncertainty as to possible wartime demand for ship construction gives little guidance as to whether shipbuilding capacity in free countries other than Canada is adequate from the point of view of defence preparedness, or what additional capacity might be desirable in which countries. Other considerations include the speed with which the output of existing yards could be increased with appropriate priorities for labour and material, the vulnerability of the yards to attack, including the concentration of much capacity within comparatively small areas, the cost of maintaining uneconomic operations in less vulnerable locations, and the question whether this cost would represent a drain of resources from other defence requirements of equal or greater urgency.

It will be apparent that this subject goes far beyond the scope of the present inquiry. The decision for or against further assistance to the Canadian shipbuilding industry on these grounds is political, and properly so, based on informed and comprehensive appraisal and subject to change with time and circumstance. The Commission is not called upon and is not in a position to make recommendations on such matters.

The Commission has considered the second of the two issues distinguished above, i.e. whether the proposed restriction of the coasting trade would be an appropriate method of assisting the Canadian shipbuilding industry, should further assistance be decided upon. Among the considerations involved are the effectiveness of the restriction in providing orders for ship construction, the costs that would be imposed on users of shipping services, the adverse effects on interests other than shipbuilding, whether the burden of the restriction would be or could be equitably distributed, and whether in these respects the measure is equal or superior to other measures that

might be adopted. The practical effects are examined by regions, followed by brief consideration of alternative methods of assisting the shipbuilding industry.

C. The Effects of the Proposed Restriction

I. ATLANTIC COAST AND GULF OF ST. LAWRENCE

It was demonstrated in Chapter VII that restriction of the coasting trade to vessels registered in Canada, wherever built, would affect the movement of about a third of the cargoes typically carried in the coasting trade of the eastern region. Transportation costs would be increased and services lessened. The further requirement that the vessels in question be built in Canada would intensify these adverse effects and would also increase the cost of transporting most of the other coasting cargoes now carried in Canadian registered vessels.

Cargoes remaining unaffected would be largely confined to those carried by scows, barges, and schooners. Most of these vessels would probably be built and registered in Canada regardless of the restriction, assuming that the importation of second-hand vessels would continue to be limited by the operation of Section 22 of the Canada Shipping Act (see Chapter XI). It is true that there were 16 Canadian-built ships included among the 42 merchant vessels of over 1,000 tons on Canadian registry and employed in the coasting trade of the eastern region during 1956, but 8 were built under war programmes, 3 are older passenger vessels, and 3 are government-owned ferries. A tanker and a small dry-cargo vessel complete the list, the latter five all built since the war. These facts do not alter the conclusion that, aside from operators of towed vessels and schooners, few owners would order replacement vessels from a Canadian yard unless there were no alternative.

1. Transportation Costs

The proposal put forward by the Canadian Shipbuilding and Ship Repairing Association was that "from henceforth" the coasting trade be reserved to ships registered in Canada, and that from a "convenient date in the near future" all replacements for these vessels and all additions to the coasting fleet be built in Canada. Thus a period is contemplated in which operators could assemble adequate fleets on Canadian registry by purchase and transfer of existing vessels, whether originally built in Canada or elsewhere. This initial period would involve immediate increases in operating costs in each case, and the operators concerned would have to increase the charges for vessel service by a corresponding amount as set out in Chapter VII. In addition, these operators and others whose vessels were already on Canadian registry would appear to be justified in seeking still higher revenues at once, to cover in advance some part of the higher cost of eventual

replacements from Canadian yards. There would be accordingly a strong upward pressure on the general level of shipping charges to the public, which might come to reflect within a comparatively short time the full costs of operating Canadian-built vessels on Canadian registry.

The order of magnitude of the increases in freight rates may be indicated by an extension of the comparison made in Chapter VII between vessels on Canadian and on United Kingdom registry. Table I below compares an estimate of the revenue required by a tramp-type vessel built and registered in the United Kingdom with that for an identical vessel built and registered in Canada, assuming that each is to earn a comparable profit after taxes. If each were to operate a full year of 330 days the Canadian vessel would be required to earn \$1,049,810 compared with \$706,896 required by the U.K. vessel, a difference of \$342,914 or about 49%. The Canadian vessel could earn that additional amount only in coasting trade not open to competition from U.K. vessels. Assuming that the coasting employment averaged eight months a year and that this type of vessel could earn \$2,142 a day in alternative employment in the off-season, a rate set by the compe-

TABLE I
Estimated Revenue Requirements of a Tramp-Type Vessel on United Kingdom
and on Canadian Registry¹

(Vessels built in United Kingdom and in Canada, respectively)

	1	2	3
	Revenue Requirement		Difference
	Built and Registered in United Kingdom ²	Built and Registered in Canada ³	(Column 2 minus Column 1)
<i>A. Total Requirements over a 330-day year:</i>			
Variable expenses	\$354,536	\$ 476,513	\$121,977
Capital recovery, profit, taxes	352,360	573,297	220,937
Total requirement	<u>\$706,896</u>	<u>\$1,049,810</u>	<u>\$342,914</u>
<i>Average per working day:</i>			
Variable expenses	\$ 1,074	\$ 1,444	\$ 370
Capital recovery, profit, taxes	1,068	1,737	669
Total requirement	<u>\$ 2,142</u>	<u>\$ 3,181</u>	<u>\$ 1,039</u>
<i>B. Required Revenue from 240 days coasting:</i>			
Yearly requirement	\$706,896	\$1,049,810	\$342,914
Less 90 days at \$2,142 off-season employment	<u>192,780</u>	<u>192,780</u>	<u>—</u>
Balance required from coasting	\$514,116	\$ 857,030	\$342,914
Balance per day of coasting employment (÷240)	<u>\$ 2,142</u>	<u>\$ 3,571</u>	<u>\$ 1,429</u>

¹From Appendix XIV.

²Estimated cost \$2,680,000; see Appendix XIII.

³Estimated cost \$4,020,000; 150% of the estimated U.K. cost.

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tion of other U.K. vessels, Table I shows that the charge to the Canadian shipper would average \$3,571 a day of coasting employment, greater by \$1,429 or 67% than would be required for service by a U.K. vessel. Since the circumstances may be taken as typical of the movement of coal, Wabana ore, and limestone, it follows that the proposed restriction would increase the cost of transporting these commodities by nearly 67%.

An official of DOSCO testified:

"The transportation cost of moving coal from Sydney to the St. Lawrence ports in Canadian built and operated ships would be just about double the cost in U.K. flag ships. The coal mining industry of Nova Scotia is by far the largest single user of coastal shipping in Canada. How could an industry, already in serious financial position, absorb an increase in transportation amounting annually to not less than several million dollars in one segment of its market alone?

"Ore and limestone from Newfoundland, required for the steel plant, Sydney, totalling over a million tons per annum, would similarly be adversely affected."

Shipments of iron ore from Sept-Iles are expected to become largely international rather than coasting with completion of the Seaway, and thus would be little affected by the proposed restriction.

Another bulk movement of major importance in the region's coasting trade is that of petroleum oils and products, carried almost exclusively in Canadian registered vessels. No evidence was submitted to the Commission on the cost of a typical tanker operation. While it is to be expected that the costs would differ in detail from those experienced with a dry-cargo vessel, it is believed that the difference between the cost of a Canadian-built tanker and one built at U.K. costs would affect revenue requirements in much the same proportions. Accordingly a comparison is made in Table II below between the estimated revenue requirements of two identical tramp-type vessels, both registred in Canada, one built at U.K. cost and the other at Canadian cost. To earn the same rate of return on investment the Canadian-built vessel would require a revenue of \$1,049,810 for a 330-day year, compared with a requirement of \$874,755 for the vessel built in the United Kingdom, a difference of \$175,055 or 20%. Were the coasting employment to average eight months a year and were each vessel able to earn \$2,142 a day in off-season employment, as in the previous example, the Canadian-built vessel would require an average revenue of \$3,571 per day of coasting employment as compared with \$2,842 per day for the U.K.-built vessel, a difference of \$729 a day or 25%. The implication is therefore that the proposed restriction would increase the charges for tanker movements by about 20% or 25%.

A considerable quantity of cement is moved in a company-owned canal-type vessel, built in the U.K. and registered in Canada. In this case too the increase in transportation costs would probably amount to 20 or 25%.

TABLE II
Estimated Revenue Requirements of a Tramp-Type Vessel On Canadian Registry,
United Kingdom vs. Canadian Build¹

	1	2	3
	Revenue Requirement		Difference
	Built in United Kingdom ²	Built in Canada ³	(Column 2 minus Column 1)
<i>A. Total Requirements over a 330-day year:</i>			
Variable expenses	\$449,986	\$ 476,513	\$ 26,527
Capital recovery, profit, taxes	424,769	573,297	148,528
Total requirement	\$874,755	\$1,049,810	\$175,055
<i>Average per working day:</i>			
Variable expenses	\$ 1,364	\$ 1,444	\$ 80
Capital recovery, profit, taxes	1,287	1,737	450
Total requirement	\$ 2,651	\$ 3,181	\$ 530
<i>B. Required Revenue from 240 days coasting:</i>			
Yearly requirement	\$874,755	\$1,049,810	\$175,055
Less 90 days at \$2,142 off-season employment	192,780	192,780	—
Balance required from coasting	\$681,975	\$ 857,030	\$175,055
Balance per day of coasting employment (÷ 240)	\$ 2,842	\$ 3,571	\$ 729

¹From Appendix XIV.

²Estimated cost \$2,680,000; see Appendix XIII.

³Estimated cost \$4,020,000; 150% of the estimated U.K. cost.

The bulk movement of pulpwood also ranks large in the region's coasting trade. Almost all of it is shipped in vessels on Canadian registry. The carriers include canallers, schooners, scows and barges, and converted landing craft. Undoubtedly the enforced use of Canadian-built vessels would result in some increase in the cost of transportation, although the evidence on this point was limited to expressions of personal opinion. In this vein a witness for the Anticosti Shipping Company (a subsidiary of Consolidated Paper Corporation Limited) indicated that the increase in the cost of moving the parent company's pulpwood might be 20 or 25%. Several uncertainties must be present in any such judgment. For example, the shipping season is as short as four months in some instances, in which case short-term chartering of canallers may be the most economical arrangement. The question arises whether these or other vessels of suitable capacity and draught would continue to be available on a charter basis; if so the cost increase might be much less than if specialized vessels must be built to serve for only a few months each year. Again, it is possible that the increase in costs could be minimized by a more extensive use of towed barges.

Many other industrial materials and products are carried largely by vessels in general cargo service. It was estimated in Chapter VII that

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exclusion of vessels on U.K. registry from these services might be expected to increase the freight rates by an average of approximately 8%. The effect of a further requirement that the vessel be built in Canada may be inferred from the foregoing estimates of revenues required by a tramp-type vessel on United Kingdom and on Canadian registry. Operation of a U.K.-built ship on Canadian registry increased the revenue requirements by an estimated \$167,859 (Table I of Chapter VII), while the difference for a Canadian-built ship was \$342,914 (Table I above) or slightly more than double. Assuming that the proportion would be similar in the case of vessels used for general cargo service, it might be expected that restriction of the coasting trade to vessels built and registered in Canada would increase the average freight charge by approximately 16%.

2. Economic Adjustments

It will be apparent that cost increases of the magnitudes indicated would be seriously detrimental to industries in the whole Atlantic region, including a large part of Quebec, and particularly to industries in Nova Scotia and Newfoundland. In fact the coal industry would be faced with catastrophe unless coal movements were exempted from the restriction or unless it is to be assumed that the increased transport cost would be matched by increased subventions—an assumption not to be made lightly. Coal subventions now amount to \$5½ million annually. A very rough approximation of the increased subsidy required may be derived from the fact that at least 25 vessels participated in the coal movement during 1955, though not all on a full-time basis. Those on Canadian registry included the three company-owned 10,000-tonners diverted from the carriage of ore and limestone, and a few smaller vessels. The 25 vessels aggregated 161,974 deadweight tons, equivalent to about 13 of the tramp-type vessels dealt with above, which are of 12,600 deadweight tons. Assuming that the entire coal movement provides employment equivalent to the full-time use of 10 of the latter vessels for a season of 240 days each, the extra cost of using ships built and registered in Canada—and hence the additional subventions required—would approximate $10 \times \$342,914$ (from Table I) or about \$3,400,000 a year.

Federal government subventions are being paid to assist in providing many coasting services of the region. These include the services along the coast of Newfoundland now provided by the Canadian National Railways, services between Quebec ports on the Gulf of St. Lawrence, and other services along the coasts of Nova Scotia and New Brunswick. The proposed restriction would cause increased operating costs in many of these cases and hence greater federal subsidies would be required.

The increase in the cost of transporting iron ore and limestone to Sydney would be about 67%, petroleum products and cement about 20% to 25%,

pulpwood probably substantially less. For industrial materials such as gypsum rock, fluorspar, gypsum lath and wallboard, carried largely by general cargo vessels, the increase would approximate 16%, and a similar increase might be expected to apply to the cost of shipping consumer goods to Newfoundland. In some cases the increases might be passed on to the consumer with or without an appreciable decline in sales volume, in others the increase or a part of it might have to be absorbed by the producer, while in still other cases the shipper might be forced to resort to rail or highway carriers or the consumer might change to another source of supply entirely.

Cost increases would be experienced in these varying degrees by almost all the industries and consumers served by coasting operations east of Montreal. This experience would be in sharp contrast with that within the Great Lakes-St. Lawrence River region, where completion of the Seaway could be expected to cause a net decrease in the cost of transporting most bulk commodities even if the proposed restriction were to be enforced, a decrease that would extend to the great volume of international shipments as well as coasting movements. The result would be not only to impose adverse adjustments in the present economy of the eastern region but also to put a new handicap on its further industrial development, whereas developments in Central Canada would be stimulated notwithstanding enforcement of the same limitation on coasting trade.

3. Ship Construction

A major objection of the proposed restriction would be to provide Canadian shipyards with a market for new ships. It was shown in Chapter VII that the restriction of the coasting trade there considered might add as many as 30 ships of over 1,000 gross tons to the Canadian registry, a total increase of about 136,000 gross tons. The requirement that vessels carrying coasting trade be built as well as registered in Canada would doubtless cause a further decrease in demand for shipping space. In this event the vessel tonnage added to the registry would not exceed the same approximate figure.

Vessels over 1,000 gross tons on Canadian registry employed in the region's coasting trade numbered 42 at the end of 1956, aggregating 132,618 gross tons.⁴ Three of these are the DOSCO vessels, totalling 21,550 gross tons, included in the above 30 vessels that might be added to Canadian registry if the restriction were enforced, because without the restriction it is unlikely that their eventual replacements would be registered in Canada. The remaining 39 on Canadian registry at the end of 1956 aggregated 111,068 gross tons. Accordingly the total Canadian fleet in the eastern region might number some 69 vessels aggregating 247,000 gross tons, an average of 3,580 gross tons each. While the economic life of the vessels

⁴Chapter V, Table IV.

might be about 20 years, it would be more conservative to assume that they would be replaced after 25 years of service. In that case the annual replacement demand to be filled from Canadian yards might average about 9,900 gross tons, or about 2.8 average size vessels. From the shipbuilders' point of view this would be equivalent to the construction of 1.4 cargo vessels of 7,150 gross tons (10,000 deadweight tons) a year, or one such vessel every 8 months.

II. THE PACIFIC COAST

One of the largest coasting movements in these waters is in logs, mostly towed in booms or rafts, though there is also some use of self-unloading log barges. Other bulk cargoes are carried preponderantly in scows and barges, including about one-third of the recorded liftings of petroleum products, and so is a considerable volume of supplies and general cargo for fish plants, paper mills, and for other purposes. This largely explains the fact that of 26 vessels exceeding 1,000 gross tons in the Pacific Coast fleet at the end of 1956⁵ (one of them laid up), 18 were combined passenger-cargo vessels, 4 were dry-cargo vessels, and 3 were tankers, with one a railway car ferry.

1. Transportation Costs

The self-propelled vessels employed in coasting trade are all on Canadian registry, hence the proposed restriction would increase only those charges related to the higher capital cost of a Canadian-built vessel. Nine of the 26 ships were built in Canada. One is a railway car ferry built in 1918, one a passenger vessel built in 1921 for the Canadian Pacific with delivery time understood to be a factor, three are "China coasters" built in 1946 and disposed of by War Assets Corporation, one is another passenger vessel built in 1948 for Canadian National Steamships with some of the installations obtained at surplus prices, and one is the *Clifford J. Rogers* built in 1955, of a novel design for handling cargo in large containers. The remaining two are tankers built in 1938. It is thus apparent that special circumstances influenced most of the decisions to acquire Canadian-built vessels. In almost every case the expectation must be that a new replacement vessel would be ordered from lower-cost yards outside of Canada.

The order of magnitude of the increase in charges to the public that would result from the enforced employment of Canadian-built vessels may be inferred from the analysis made in the preceding section. In the case of the combined passenger-cargo services the increase would probably be about 8%, as was found with respect to liner services to Newfoundland. A similar increase might be expected in the charges for service with dry-cargo vessels, because they are used on the West Coast largely for the car-

⁵Appendix X.

riage of general cargo and a high proportion of the transportation charge is for terminal facilities and cargo handling. The increase for tanker services might be about 20%, as in the case of year-round service on the East Coast, the cost of cargo handling being a much smaller proportion of the total. It was pointed out in the previous analysis that an upward pressure on freight rates could be expected to begin at once, and that the full effect of the change might be felt promptly, even though actual replacements would take place only over a period of years.

A rate increase of 8% might be absorbed without great difficulty in several of the services employing passenger and cargo vessels, although steamers have lost much passenger business to air services and much cargo business to scows and barges. In some cases there might be need of increased subventions for essential services to isolated communities. The Commission heard a number of complaints about inadequacy of existing services and recognizes the difficulty of providing better. The proposed changes in the coasting law could be expected to increase the difficulty, despite the fact that a comparatively rapid rise in population is bringing additional business for all carriers to share. In the case of tanker movements in particular, the prospect of a cost increase of 20% might well be enough to cause the operators to use barges to replace existing vessels upon their retirement.

The movement of other bulk cargoes would be little affected by the proposed restriction. They are carried largely in scows and barges. For Canadian builders of such craft, competition has been more in the form of importation of second-hand equipment or of old hulls for conversion (in Canadian yards) into barges. Under Section 22 of the Canada Shipping Act, discussed in Chapter XI, vessels built outside of Canada may not be registered in Canada without the consent of the Minister of Transport. This provision, enacted in 1950, appears to have resulted in a reasonable control of the imports here in question, so that scows and barges are now being built largely in Canadian shipyards.

2. Ship Construction

The proposed restriction would secure for Canadian shipyards the orders for replacements of existing vessels and additions to the fleet. The 26 coasting vessels of over 1,000 gross tons in the existing fleet on the West Coast aggregated 82,018 gross tons.⁶ One of the passenger-cargo vessels (1,396 gross tons) has been laid up for some time and presumably would not be replaced in any event. If the proposed restriction were to be enforced there must be considerable doubt whether some of the other vessels would be replaced on retirement, particularly the three tankers aggregating 4,397 gross tons. Assuming that these four vessels represent the proportionate

⁶Chapter V, Table IV.

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decline in numbers and tonnage to be expected, the fleet to be maintained would be 22 vessels aggregating 76,225 gross tons, an average of 3,465 gross tons.

Assuming that the vessels would be replaced every 25 years, maintenance of a fleet amounting to about 76,000 gross tons would require annual replacements averaging about 3,100 gross tons, something less than one average size vessel. From the shipbuilders' point of view this would be equivalent to one order every 28 months for a cargo vessel of 7,150 gross tons (10,000 deadweight tons).

III. THE GREAT LAKES AND ST. LAWRENCE RIVER

1. Transportation Costs

It was shown in Chapter VII that restriction of the coasting trade to vessels registered in Canada would probably cause most of the overseas exports of Canadian grain to be shipped directly from the Lakehead, thus causing a substantial reduction in the volume of coasting trade. A further requirement that coasting vessels be built in Canada would have a substantially greater effect on transportation costs and so make this development virtually certain.

Example 1 of Appendix XV deals with a tramp vessel brought in ballast from Montreal to Fort William to load an overseas cargo of wheat. On the given assumptions the typical charge for its time above Montreal would be \$2.24 a ton of wheat. Example 3 deals with the export shipment of wheat moved to Montreal in the coasting trade by a specialized carrier on U.K. registry, vessel F, the vessel's charge for carrying wheat being determined by the additional time involved in an extended round trip to Fort William after delivering ore from Sept-Iles to Cleveland. In this case the charge for putting the wheat on board an ocean vessel in Montreal would be \$2.11 a ton. Substituting the Canadian-built laker H in this example, the complete round trip would require 389.3 hours, the average revenue requirement per day would be \$5,353, hence the total charges to be made for the entire voyage \$86,830. Ore revenue at the assumed rate of \$1.71 a ton (set by international competition) on 22,200 tons would yield \$37,962, leaving \$48,868 to be recovered from the movement of 20,490 tons of wheat, which amounts to \$2.38 a ton of wheat. Adding 70c for the transfer costs gives a total of \$3.08 a ton. This is higher by 97c or 46% than the figure derived with the U.K. vessel F. It is higher by 84c a ton (2.1c a bushel) than the charge for the tramp vessel's time above Montreal. It follows that most Canadian export grain would be shipped overseas directly from the Lakehead, except possibly when ocean rates were abnormally high.

The cost of exporting Canadian grain would be greater by about 13c a ton ($\frac{1}{3}$ c per bushel of wheat) than if no new restriction were imposed,

and greater by a like amount than the cost of exporting U.S. grain shipped to St. Lawrence ports in specialized vessels on U.K. registry. It is probable that Canadian transfer ports would handle mostly U.S. grain and little Canadian grain.

The movement of grain for domestic use would constitute a major portion of the coasting trade retained by Canadian lakers, as was shown in Chapter VII. In many cases the most economical movement would involve a round trip between the Lakehead and Sept-Iles to secure a cargo of iron ore, even though the freight earned from the ore carriage would be at rates established by international competition. In the export example just given, the charge for moving wheat from Fort William to Montreal in vessel H was \$2.38 a ton, exclusive of the 70c transfer costs at Montreal. The charge for a water movement to Kingston would be the same, for there would be no difference in the voyage time for the round trip to Sept-Iles. Assuming on the other hand that the vessel returned to Fort William in ballast after delivering wheat to Kingston, the comparable charge would be \$2.58 (\$2.95 less 37½c cargo handling costs; see Chapter VI), greater by 20c a ton. In the absence of the restriction, however, a similar economy would be realized were the U.K. vessel F to be employed. It follows that in these instances the proposed restriction would cause transportation costs to be greater by about 46% than otherwise would be the case, judging by the example of a delivery to Montreal.

Coasting shipments of grain involving no return cargo may be typified by the example of carrying wheat to Kingston, previously referred to, though only on the assumption that the vessel would be fully employed all season in this or equally remunerative movements. The charge for delivery to Kingston elevators would be \$2.95 a ton employing the Canadian-built laker H, \$2.29 a ton employing the U.K. vessel F, a difference of 66c or 29%.

In practice it is highly doubtful whether the coasting trade alone would keep Canadian vessels fully employed unless the domestic demand for wheat comes to require a fairly regular movement over the season. Should some export shipments continue in the coasting trade, that demand is likely to remain variable, while other dry cargoes in coasting trade would be comparatively few. Freight rates in alternative transborder trade would tend to be established by international competition at levels not fully remunerative for the Canadian vessels. For example, it was shown in Chapter VI that the charge for carrying iron ore from Sept-Iles to Hamilton would be \$1.39 a ton employing the U.K. vessel F compared with \$1.74 employing the Canadian-built laker H, the latter charge being higher by 35c or 25%; the implication is that rates satisfactory to the U.K. vessel would fall substantially short of meeting the requirements of the Canadian vessel. Hence in these cases of grain shipments with no return cargo the proposed

restriction may cause freight rates to be higher than otherwise by more than 29% and perhaps as much as the 46% derived in the previous example, which involved combined employment in coasting and transborder trades.

It is possible that the proposed restriction would cause an actual increase over present transportation costs for some of the domestic grain movement, depending partly on the extent to which carriers would have to be employed in transborder trade if lay-ups were to be avoided, and partly on the level of tolls that might be charged for the use of the improved Welland Ship Canal and the new St. Lawrence canals. There would be little or no return cargo for coasting shipments terminating above the Welland Canal. On the other hand they would not be subjected to a canal toll under the arrangements now contemplated. The vessels carrying such shipments at the present time, however, have alternative employments that must be presumed to be equally remunerative. After completion of the Seaway those alternative employments in transborder trade would become less remunerative, and the new situation might require increased charges for the coasting movement. Most of the grain shipped to Canadian ports on the Welland Canal or on Lake Ontario might be carried in association with iron ore from Sept-Îles, in which case the new economy might be enough to offset a small toll charge. Grain shipped to Montreal or beyond would benefit from a saving in transshipment costs, from the replacement of canallers with more economical lakers, and probably also from the economy of two-way cargo movement. It is to be expected that the total of these economies would more than offset a reasonable toll charge.

The tanker movement of petroleum and its products might provide another exception to the general expectation of net economies in transportation following completion of the Seaway, especially if new carriers were required to be built in Canada. None of the major oil companies made a submission to the Commission, and no other evidence has a direct bearing. It is open to doubt whether the market demand is great enough to warrant the general employment of vessels much larger than those of canal size now in use. There were 39 tankers in the Great Lakes fleet on Canadian registry at the end of 1956, totalling 97,202 gross tons, 142,010 deadweight tons. All but two were of canaller dimensions, and one of those two is being converted to a dry-cargo carrier as were two others originally built to carry Alberta crude oil. The existing 14-foot St. Lawrence canals have influenced without doubt the size of the other 37, but 26 of them can be loaded to deeper draughts ranging from 15 feet to 24 feet, giving them a greater capacity in waters above Prescott. It may therefore be that any economy made possible by deeper channels and larger locks would be offset by the Seaway tolls.

It has been shown that under normal circumstances it would be more economical to replace existing tankers on retirement with vessels built in

the United Kingdom. A requirement that the replacements be built in Canada would increase the transportation costs by at least 25%, comparable to the increase in similar costs on the Atlantic Coast. The percentage increase would probably be higher, because few lake tankers would be employed for more than eight months a year. The outcome might well be diversion of a considerable volume of petroleum products to the railways or to new pipelines by-passing the canals in question.

The movement of package freight might likewise offer little scope for the employment of vessels much larger than those now in use. Successful service requires frequent sailings, hence the appropriate size of vessel is related to the amount of cargo that can be accumulated in the interval. While there might be some increase in freight rates as a direct result of the imposition of tolls, the basis and the level of which have yet to be announced, strong competition from rail and highway carriers may be expected to put a rather narrow limit on the increase that can be made effective for this or any other reason. The public interest is thus less at issue than otherwise would be the case, the main question being how successful the water carriers will be in retaining a portion of the business. In this situation it would appear obvious that the enforced use of Canadian-built ships would be a significant handicap. Canada Steamship Lines, the major operator, nevertheless advocated the restriction, perhaps influenced by its ownership of five Canadian shipyards. The two operators of services from the Great Lakes to Newfoundland opposed the restriction.

The remaining cargoes now carried in the coasting trade of the area include pulpwood, iron ore, cement, sand, gravel, stone, and other miscellaneous cargoes, all of much less volume than grain or petroleum. Aside from sand, gravel, and stone, mostly carried in scows or barges, it is probable that the proposed restriction would cause a difference of 25% or more (as in the case of iron ore) in the cost of transportation.

It is probable that the Canadian shipping industry on the Great Lakes would be adversely affected by the proposed restriction. Operators of dry-cargo vessels would lose most or all of the coasting movement of Canadian export grain, which they might have retained by employing vessels on U.K. registry. While they might employ U.K. vessels in order to compete in transborder trade, in addition to Canadian registered vessels for coasting trade, their competitive position would not be as strong as if all their vessels were eligible for both trades. Tanker cargoes are largely confined to coasting trade. Some of the vessels are owned by oil companies, others by independent firms; it is probable that their operations would be curtailed before vessel replacements became necessary.

2. Ship Construction

It is probable that restriction of the coasting trade to vessels built as well as registered in Canada would result in the retention of fewer ships

on Canadian registry than would restriction as to registry only. The tanker tonnage in particular might be reduced. In view of the approximate nature of the figure of 450,000 deadweight tons derived in Chapter VII, however, the same figure also will serve in this case to indicate the capacity of the lakes fleet that might be retained on Canadian registry.

The average age at which a vessel is retired is not necessarily the age taken as its "economic life". A witness for CSL testified:

"Although most Great Lakes vessels have a longer apparent physical life than deep sea vessels, in the writer's opinion the actual useful physical life should not exceed 35 to 40 years and the economic useful life is actually still less than this."

Assuming that the average retirement age would be 35 years, a fleet of 450,000 deadweight tons would provide annual replacement orders averaging 12,857 deadweight tons. This would represent one laker a little bigger than the average of the 76 on Canadian registry at the end of 1956 (10,156 deadweight tons), equivalent to one vessel of the size of the *T. R. McLagan* (22,700 deadweight tons) every 21 months.

A replacement demand of 12,857 deadweight tons a year may be expressed in gross tons, to be comparable with the preceding estimates, by making use of the fact that the 76 lakers on Canadian registry at the end of 1956 totalled 505,787 gross tons, and 771,187 deadweight tons,⁸ the gross tonnage being about 65½% of the deadweight. On this basis the average annual replacement demand would be about 8,400 gross tons, equivalent to about 1.2 of the larger Park vessels a year.

D. Alternative Methods of Assisting the Shipbuilding Industry

The volume of shipbuilding orders that would be placed in Canada as a result of restricting the coasting trade to vessels built and registered in this country has been estimated to average 9,900 gross tons a year in the eastern region, 3,100 on the Pacific Coast, and 8,400 on the Great Lakes. The value of the orders from the eastern and Pacific areas may be judged from the cost of the 9,000 gross ton tramp vessel, which was estimated to be \$4,020,000⁹ built in Canada, i.e. \$447 a gross ton. At this rate the cost of replacing 13,000 gross tons in Canadian shipyards would be \$5,810,000 a year. The 15,500 gross ton Canadian-built laker H was estimated to cost \$5,820,000 or \$375 a gross ton, hence the cost of replacing 8,400 gross tons of lakes vessels would be \$3,150,000 a year. The total of these two figures, \$8,960,000, represents the average year's orders for ship construction that would be received by Canadian shipyards as a result of the proposed restriction.

⁷R. Lowery, vice-president Canada Steamship Lines Ltd., president Davie Shipbuilding Ltd.

⁸Chapter V, p. 60, Table IV.

⁹150% of \$2,680,000, the estimated cost of vessel C built in U.K.; see Appendix XIII.

The net value of production in shipbuilding during the ten years from 1946 to 1955 ranged from a low of \$26,155,000 in 1950 to a high of \$95,311,000 in 1953, and averaged \$62,655,000 annually.¹⁰ Orders averaging \$8,960,000 a year as a result of the proposed restriction would thus be of comparatively minor assistance in maintaining a shipbuilding industry. The assistance would be of much less significance than the industry's earnings from other activities than shipbuilding and ship repairing, which averaged \$16,655,000 a year during the same ten year period.

1. THE COST OF RESTRICTION

The proponents of restriction emphasized that the policy would benefit the shipbuilding industry without an outlay of public funds. It has been shown that application of the restriction to the shipment of Cape Breton coal could not be contemplated unless accompanied by a substantial increase in transportation subventions to offset the resultant increase in the cost of coasting movements. Numerous other subsidized services would require greater subsidies, some services not now subsidized might require assistance, and in fact a demand might well arise for a general policy of transportation subventions, so that it is difficult to put a limit on the possible cost to the treasury. Alternatively, the demand might be for exempting the coal movement from the restriction, also the Furness Warren and Furness Red Cross services to Newfoundland and numerous other services or commodity movements, resulting in a haphazard and self-defeating policy of restriction.

The restriction would be a costly method of providing orders for the construction of ships in Canada, no matter how the burden was shared between the shipping public and the treasury. It would force ship operators in the coasting trade to employ vessels registered in Canada, and in many cases the operating costs are much higher than for a vessel on United Kingdom or other Commonwealth registries. It would increase the cost of replacing all the vessels by at least 50% compared with the cost of acquiring them from United Kingdom yards. The charges for their services must be great enough to cover not only their greater capital and operating costs but also to provide a sufficient annual return on the increased investment. The return must be substantial in order to induce an investment in an asset of such long life, since it may be many years before the original cost is recovered, and the return must be realized out of revenues after taxes. In short, the user of shipping services would be required to pay not only the 50% increase in the vessels' cost, plus an annual return on that increase, but a larger sum that would provide these amounts after deduction of higher corporation taxes.

An approximation of the cost of the restriction can be derived from the estimates previously made of the charges that would be required for the

¹⁰Chapter V^{II}, Table II, p. 144.

employment of typical vessels. For this purpose rounded figures are used. Other cost increases resulting from less efficient use of shipping have not been included in this calculation.

The Commission has estimated that the effect of the restriction would be to cause about 136,000 gross tons of shipping to be registered in Canada in place of vessels that would otherwise be registered elsewhere in the Commonwealth. It has been shown that the increase in the charges to the public would be approximately \$343,000 a year for an ocean vessel of about 9,000 gross tons (Table I, p. 162). While this is a somewhat larger vessel than most of those now in use, it is said to be a typical modern tramp type. If the costs of other vessels were in proportion to size, the 136,000 gross tons would cost shippers an additional \$5,180,000 a year.

Another 111,000 gross tons would be maintained on Canadian registry on the Atlantic Coast and 76,000 gross tons on the Pacific Coast, representing vessels already on the registry. The additional charges for this 187,000 gross tons of shipping would be those relating to the higher cost of replacement in Canada, estimated to be \$175,000 a year for a vessel of about 9,000 gross tons (Table II, p. 164). Proportionately, maintenance of the 187,000 gross tons would cost the public \$3,640,000 a year.

The estimate of the size of the lakes fleet that might be retained on Canadian registry was 450,000 deadweight tons, which would be about 295,000 gross tons if the two measurements were in the same ratio as the average for the 76 lakers on Canadian registry at the end of 1956. The largest coasting movement would be grain, hence the difference between the cost of moving wheat in a Canadian-built laker rather than a specialized seaway-ocean carrier on U.K. registry may be taken as typical. Under the conditions given in Appendix XIV the laker H would carry 471,270 tons of wheat in a season of 230 days for a total charge of about \$1,390,000, whereas the U.K. vessel F would carry wheat at \$2.29 a ton or a total of \$1,080,000 a season, a difference of \$310,000. Vessel H is basically the *T. R. McLagan*, 15,500 gross tons. Proportionately, the employment of the whole fleet of 295,000 gross tons would cost the users of coasting service about \$5,900,000 more than would the employment of U.K. vessels.

The sum of the three figures is \$14,720,000, the approximate annual cost to the shipping public of restricting the coasting trade to vessels built and registered in Canada. While increased charges to shippers would not attain this amount in the first year, they would do so rapidly for the reasons given on page 161. Thus the shippers would be required to pay \$14,720,000 a year in order to provide Canadian shipyards with orders averaging \$8,960,000 a year.

2. SUBSIDIZED SHIP CONSTRUCTION

Any policy of subsidization as an alternative to restricting the coasting trade would have the advantage of spreading the cost of assistance to the

shipbuilding industry in an equitable manner among taxpayers at large, rather than imposing it directly on the users of coasting services. A policy of direct subsidy to shipyards, reducing the cost to the purchaser of a vessel, would be the least costly of all and the most effective. Thus if the Government paid approximately one-third of the delivered price of each vessel, \$8,960,000 worth of orders would cost the Government about \$2,990,000, compared with a cost to the public of \$14,720,000 to achieve the same result by restriction of the coasting trade. If it were found that a one-third subsidy would not produce orders for ships to the value of \$8,960,000, as restriction would, the subsidy could be increased enough to make it attractive to employ vessels built and registered in Canada. Yet the annual cost to the Government of securing shipbuilding orders of that value would be a fraction of the cost of restriction.

3. TARIFFS

Tariff protection is the traditional method of assisting Canadian industries. In the case of ships employed in coasting trade, however, it would take an extremely high *ad valorem* rate of duty to be as effective as the proposed restriction in providing shipbuilding orders for Canadian shipyards. The rate would have to be high enough to offset not only the 50% greater cost of constructing a ship in Canada but also the higher cost of operation on Canadian registry. At a lesser tariff rate many operators would continue to charter vessels on U.K. registry, particularly for seasonal operations. The tariff would increase the cost of employing the U.K. vessels in coasting trade but would not induce any U.K. owner to order a vessel built in Canada, for a Canadian-built vessel would be uneconomic in the alternative employments outside the coasting trade.

The extreme rate of duty referred to would be one designed to make a vessel built and registered in Canada competitive with one built and registered in the United Kingdom. The resultant increase in transportation costs would be as great as would be caused by outright restriction of the coasting trade.

4. OPERATING SUBSIDY TO OWNERS OF CANADIAN-BUILT SHIPS

Annual subsidies to the operators of ships newly built in Canada would provide indirect assistance to shipyards. Technically it would be feasible to provide a large enough annual subsidy to induce not only a Canadian but a United Kingdom owner to employ a vessel built in Canada. In practice, however, the subsidy would be difficult to administer. It is doubtful whether an equitable general formula could be devised for granting the subsidy, hence it would probably be necessary to assess each case separately. Moreover, it would be more costly to the federal treasury than the direct subsidization of shipbuilding. For example, in the case of an operator of a

ship like vessel C, registered in Canada, the annual subsidy required to induce acquisition of a vessel built in Canada rather than in the United Kingdom would be \$175,000¹¹ if the subsidy were subject to income tax, or 53% of that amount if tax free, \$92,750. For each vessel C thus subsidized the annual replacement orders would be 1/25th of 9,000 gross tons or 360 gross tons. At \$447 a gross ton the annual value of the orders placed would be \$160,920 per vessel subsidized, hence every \$92,750 paid in tax-free annual subsidies would provide \$160,920 in shipbuilding orders. The same result could be achieved by a direct subsidy to shipbuilders of one-third of the value of the orders, which would be a cost of only \$53,640 for every \$160,920 in orders.

5. TAXATION DEVICES

The Canadian Vessel Construction Assistance Act is an example of a taxation device which provides some inducement to ship operators to order vessels built in Canada. Its effectiveness results from the fact that it permits a faster recovery of the original investment, hence reduces to some extent the risks of the investment. It is shown in Chapter VI that in most cases this advantage falls far short of offsetting the higher capital cost of Canadian construction.

The investment allowance granted by the United Kingdom Government, otherwise referred to as "overdepreciation", is a form of tax remission incorporating some of the advantages of accelerated depreciation. Since the allowance may be claimed as rapidly as earnings permit, the tax remission is afforded in the first year or years of a vessel's operation. The effect is the same as granting a tax-free annual subsidy equal to the taxes foregone during the period in which the allowance is claimed.

The U.K. investment allowance is granted regardless of the country in which the new ship is built. A possible Canadian adaptation might require that the ship be built in Canada. This policy would be unlikely to provide many orders for vessels to be employed in coasting trade at revenue levels set by the competition of less costly vessels, for at such levels a complete remission of taxes would not be enough in most cases to offset the higher capital cost of a Canadian-built vessel.

The limitations of this policy can be seen by considering the case of an owner of a ship like vessel C of the previous examples, built in the United Kingdom and registered in Canada, employed profitably in a coasting service in which ships on U.K. registry have no competitive advantage. To be induced to order a similar vessel built in Canada, either to replace the existing vessel on retirement or to expand his operations, the owner would have to be assured of a tax-free annual operating subsidy of \$92,750 as shown in Section 4 above, or a total of \$1,855,000 over an assumed vessel

¹¹Table II, p. 164.

life of 20 years. The vessel's earnings would remain at the level set by other competition, assumed to be \$874,755 a year,¹² a total of \$17,495,100 for the 20 years. The out-of-pocket expenses of the Canadian-built vessel would be \$476,513 a year,¹² a 20-year total of \$9,530,260, while normal depreciation would amount to the \$4,020,000 it would have cost originally. These deductions would leave as the total taxable income for the period \$3,944,840, which is the maximum amount of overdepreciation that could be claimed out of the vessel's earnings, 98% of the original cost. The result of such a rate of overdepreciation would be a complete remission of taxes which would otherwise have amounted to 47% of \$3,944,840 or \$1,854,000, almost equal to the required \$1,855,000.

In this example a double depreciation allowance would make the vessel an attractive investment, but the cost would be the same as an annual operating subsidy. Were the vessel to be employed in a service now dominated by U.K. vessels, however, the prospective revenue would be only \$706,896 a year, less than in the given example by \$167,859 a year or \$3,357,180 over the 20 years. The taxable income would be less by a like amount, totalling only \$587,600. In this case the maximum amount of overdepreciation it would be feasible to claim would be 14.6% and the tax thus foregone only \$276,172 over the whole 20 years, far short of the required \$1,855,000. It can be shown in like manner that no amount of overdepreciation allowance would be effective in making a Canadian-built laker competitive with a specialized seaway-ocean carrier on U.K. registry.

Other methods of assistance would be various combinations of subsidies, whether capital or operating, with taxation devices. The effectiveness and cost of any such method may be arrived at by evaluating its components in the manner heretofore set out.

6. CONCLUSION

The Commission recommends rejection of the proposal to restrict coasting trade to vessels built and registered in Canada. The Commission is not in a position to determine whether the defence preparedness value of a Canadian shipbuilding industry would be great enough to warrant its being maintained at a level of activity higher than is in prospect without assistance. Should this be determined to be the case, the Commission considers that a policy of direct subsidization of ship construction would be the least costly and the most effective way of achieving the desired result.

¹²Table II, p. 164.

CHAPTER X

Regulation of Canadian Coasting Trade

The Commission dealt in preceding chapters with the major problem drawn to its attention, i.e. the situation arising for Canadian coasting shipping from the competition of ships either built outside of Canada although registered in this country, or ships built and registered outside of Canada, mainly in the United Kingdom. The attention of the Commission has been drawn to another aspect of Canadian coasting trade, namely the competition between various modes of transportation within Canada, particularly the competition offered by water transportation to railway transportation.

A. Present Regulations

The main regulations affecting coasting shipping have been outlined in Chapter II. Comprehensive regulation of water transport is in effect only on the Mackenzie River, where vessels over 10 gross tons are subject to the Transport Act with respect to the transportation of passengers and all types of cargo. Under the same Act there is extensive regulation of water transportation between any two Canadian ports in the waters of the Great Lakes and St. Lawrence River west of the Island of Orleans. Such regulation, however, applies only to transportation in vessels exceeding 500 gross tons, and to the transport of passengers and goods other than "goods in bulk" as defined in the Act.¹ Requirements under the Transport Act include the obtaining of licences, which may be issued on the basis of public convenience and necessity, and the filing of tariffs for the approval of the Board of Transport Commissioners. Moreover, the Inland Water Freight Rates Act provides for the establishment of maximum rates for movements of wheat and other grains from Fort William and Port Arthur to other ports in Canada or the United States.

The attention of the Commission was drawn to railway regulations which do not all have counterparts applying to water transportation. For instance, the Railway Act requires the filing and publication of all rail tariffs, which

¹The expression "goods in bulk" is defined in Section 2(1)(d) of the Transport Act as follows:
" 'goods in bulk' means the following goods laden or freighted in ships, and except as herein otherwise provided, not bundled or enclosed in bags, bales, boxes, cases, casks, crates or any other container:

- (i) grain and grain products, including flour and mill feeds in bulk or in sacks,
- (ii) ores and minerals (crude, screened, sized, refined or concentrated, but not otherwise processed), including ore concentrates in sacks, sand, stone and gravel, coal and coke, liquids,
- (iii) pulpwood, woodpulp, poles and logs, including pulpwood and woodpulp in bales, and
- (iv) waste paper loaded as full ship's cargo, iron and steel scrap and pig iron; . . ."

then become effective only after a specified time. Certain rail rates are determined by statute. Other examples are the equalization of freight rates as between regions and the restrictions respecting implementation of "competitive rates".

B. Regulation under Transport Act

The two major railways of Canada submitted to the Commission that such "inequality of regulation" between rail and water transportation, particularly between rail and certain types of water transportation, should be eliminated and that all types of water carriers should be subjected to the same basic regulations as railways.

More specifically, the Canadian National Railways made the following recommendations to the Commission:

- "a) The jurisdiction of the Board of Transport Commissioners should be extended to all ships engaged in the movement of domestic traffic subject to inter-carrier competition. Only such ships as engage in 'bulk' movement as understood in the economic sense should be excluded from the Board's regulatory powers; and 'bulk' in that sense would be limited to traffic carried undifferentiated in vessels specially designed for the movement of goods in shipload lots. From a practical point of view, there are such substantial differences in transportation requirements for this type of traffic, that no other carrier can compete effectively.
- "b) The regulatory powers of the Board should, in equity, be applied uniformly to ships in all segments of the coasting trade, including those trading on the Atlantic and Pacific coasts, in the inter-coastal service, and between the Atlantic and Pacific coasts and the Great Lakes, all of which are as much a part of the domestic water transportation system as are ships operating in the Great Lakes.
- "c) The jurisdiction of the Board over the vessels specified in 'a' and 'b' above should be extended further to cover all such vessels having over 100 tons' gross tonnage. The present limitation of 500 tons exempts from regulation a sizeable group of vessels which, in aggregate, play an important role in the intra-Canadian movement of goods by water. An exemption of 100 tons would, in the opinion of the Canadian National, be sufficient to exclude, for administrative convenience, vessels whose operations are not on a commercially significant scale."

The Canadian Pacific Railway went even further, for its recommendation did not exclude any of the "bulk" movements or any of the ships, even those under 100 tons. Its recommendations in this respect were as follows:

- "(a) The licensing and rate regulating provisions of the Transport Act contained in Parts I, II and III thereof should be extended to include all ships engaged in the coasting trade of Canada, due protection being given in the Act to ships now operating in such trade. In addition Section 5 of Part I should be amended to make it mandatory for the Board in reaching its decision on public convenience and necessity to give full effect to the considerations outlined in Sub-paragraphs (a) to (d) inclusive. Under present legislation, the Board may take these factors into consideration but is not compelled to do so.

“(b) Consideration should also be given to amending the provisions in Part III of the Transport Act to bring them more into conformity with the Railway Act by providing:

- (1) Publication and filing by the water lines of special arrangements tariffs, in addition to all other tariffs.
- (2) The same regulation respecting tariffs and tolls for the carriage of goods in bulk as apply to all other goods.”

The railways' submissions are based on the argument that regulation should bear evenly on all forms of transportation. It is argued that not only is it “unfair” when the burden of regulation falls more heavily on one competitor than on another, but that it is also uneconomic because it impairs the productive strength of the burdened competitor.

The Commission inquired at the public hearings as to the practical disadvantages resulting for the railways from the so-called “inequality of control”. A witness for one of the railways stated that the requirements of publishing rates and obtaining the approval of the Board of Transport Commissioners are handicaps for the railways not borne by water carriers, which may quote “spot rates”. The Commission was unable to obtain specific evidence as to how these handicaps worked in practice. Neither was the Commission able to obtain such evidence as to how the lack of a licensing requirement for water carriers, on the basis of public convenience and necessity, had handicapped the railways.

When the attention of witnesses was drawn to the well-known position taken by railways in recent years in asking for a relaxation of regulations affecting rail transportation, it was agreed on behalf of one of the railway companies that such relaxation was desired and desirable, particularly as regards statutory rates and the conditions under which competitive rates may be applied. It was argued nevertheless that all water carriers in the coastal trade should be subjected to whatever regulations might be deemed necessary for railways.

The Commission cannot agree with such an argument. No evidence was submitted to the effect that the conditions within the shipping industry itself warrant more comprehensive or restrictive regulation, for instance to provide better water service, or to curb demonstrable abuses, or otherwise for the benefit of the public as distinct from benefit to other transport media. The solution of the problem raised by the railways might well be relaxation of some of the regulations imposed on rail transportation—an issue which is outside the scope of the present inquiry. But the keeping in force of any such regulations is not in itself a valid reason to impose an artificial handicap upon water carriers to reduce some of their natural competitive advantages over rail carriers in the guise of applying the same regulations impartially to each.

On the other hand, while the railways submitted that water carriers should be more extensively regulated, the Canadian Shipowners Association

and Saguenay Terminals Limited questioned the appropriateness of present regulations. They complained of the difficulty of establishing "public convenience and necessity" as required by the Transport Act for certain services.

The Commission simply points out that it is an invariable practice, whenever competition is limited in the provision of a public service, to authorize the licensing of an operator only on the basis of public convenience and necessity. To demonstrate this may be difficult whenever there is already an authorized operator in the field, but it is nevertheless a necessary requirement if the danger of destructive competition is to be avoided.

C. Central Transportation Authority

The relationship between rail and water carriers raises a much wider question than simply to decide whether or not there should be a uniform set of regulations. The attention of the Commission was drawn to the findings of the Royal Commission on Transportation, 1951 (Turgeon Commission), which included a statement that

"The several means of transportation—railways, waterways, airways, (highways),² and now pipe lines—are distinct agencies that are inseparably inter-related. They should be so regulated as to serve not only individually but collectively in meeting the country's needs."³

The Turgeon Commission took the position that it was an "anomaly" to have three separate and independent bodies—the Board of Transport Commissioners, the Air Transport Board and the Canadian Maritime Commission—each charged with the control of a part of the Canadian transportation system. The proposed remedy was

"... the constitution of a Central Authority which will be able to take in hand the major task of co-ordinated control, having at its disposal all the benefit acquired from the experience of the separate bodies in recent years.

"The adoption of this policy would bring together the three above named bodies, re-organized and united and devoted henceforth to the pursuit of a well planned policy for the co-ordination and regulation of transportation."⁴

The Turgeon Commission, whose findings on this point were commended to this Commission by the Canadian Pacific Railway, among others, envisaged the establishment of a Central Authority to replace the existing separate bodies. Other groups which appeared before this Commission recommended a different type of central authority

"... that would not necessarily replace the existing transportation authorities, but would rather complement the work of existing bodies, and would have as its objective the integration and overall co-ordination of various types of transportation services so that they would serve collectively in Canada's best interest."⁵

²The Turgeon Commission had noted in the preceding sentence that highway transport comes largely under provincial jurisdiction.

³Turgeon Report p. 279.

⁴P. 280.

⁵Submission of the Government of Saskatchewan.

This view was put forward by the Government of Saskatchewan and was also expressed by farming groups such as the Interprovincial Farm Union Council and the Saskatchewan Farmers Union.

The Commission is not called upon to express an opinion as to whether one regulating body would serve the public interest better than three or more, or whether this or another type of central authority should be established. It is constrained to make two observations on the subject, however. One is that any regulation to be applied to a transportation medium should be justifiable on the grounds of the conditions of service to the public by that medium, for if one medium requires less regulation than another that is part of its natural advantage. The other observation is that no problem has been placed before this Commission which would require for its solution the attention of either of the two kinds of central authority that were advocated.

CHAPTER XI

Other Submissions

In addition to the submissions previously discussed in this report, representations have been made to the Commission during the course of its investigations in support of more than fifty other proposals. The Commission is grateful to those who have put so much time and effort in making these representations which have been in many respects helpful. A number of the proposals however fall outside the terms of reference and upon them it is not required to make recommendations; a number are in effect disposed of by the general recommendations in this report; the remainder, falling wholly or partially within the terms of reference and not already dealt with are discussed in the present chapter.

Submissions falling outside the terms of reference of the Commission are those relating to subsidization of Canadian ocean-going vessels,¹ development of a Far Eastern Trade Policy,² expansion of Canadian overseas trade generally,³ development of international trade through Hudson's Bay,⁴ encouragement to building ocean-going ships in Canada,⁵ establishment of a Canadian ocean-going fleet of cargo vessels⁶ and establishment of a Crown Corporation to operate an overseas trading fleet.⁷ The Commission is not required to consider international trade or deep-sea shipping policy not affecting the coasting trade and therefore makes no recommendation on these subjects.

Submissions in effect covered by the main recommendations in this report include various representations that non-Canadian ships using the St. Lawrence Seaway Canals should be required to pay discriminatory tolls or that such vessels engaging in Canadian coasting trade be required to pay special taxes or fees or be subjected to other burdens.⁸ Representations were also made by manufacturers and suppliers of marine equipment and shipping stores, whose businesses are ancillary to the shipbuilding industry, in support of various proposals for assistance to the shipbuilding industry and for

¹Quebec Federation of Labour, Brief 155, p. 81, T.3630-3631; National Council of Shipyard Unions (C.C.L.), Halifax, Brief 107, T.1579

²Vancouver, New Westminster and District Metal Trades Council, Victoria and District Metal Trades Council, and Shipyard General Workers Federation, Vancouver, Brief 36.

³Labour-Progressive Party, B.C. Provincial Committee, Vancouver, Brief 118, Ex. 63.

⁴Federated Cooperatives, Limited, Saskatoon, Brief 45; Hudson Bay Route Association, Briefs 58 and 124, Ex. 69, T.2740; Interprovincial Farm Union Council, Saskatoon, Brief 112, T.2715.

⁵John Inglis Co. Limited, Brief 99.

⁶Hudson Bay Route Association, Briefs 58 and 124, Ex. 69.

⁷Labour-Progressive Party, B.C. Provincial Committee, Vancouver, Brief 118, Ex. 63, p. 6.

⁸The St. Lawrence Shipowners Association Inc., Brief 49, pp. 8-11; Plymouth Cordage Company of Canada Ltd., Brief 86, p. 2; Labour-Progressive Party, B.C. Provincial Committee, Vancouver, Brief 118, Ex. 63, p. 6; National Council of Shipyard Unions, Halifax, Brief 107; Kent Lines Ltd., Brunswick Motors Ltd., and Irving Pulp and Paper Ltd., Brief 129, Ex. 164, p. 7.

other measures to maintain their ancillary facilities.⁹ Insofar as these proposals fall within the terms of reference the views of the Commission are sufficiently indicated in its discussion of the major proposals for restriction of the coasting trade to which these proposals are related and like considerations apply.

The Commission makes the following comments on the remaining subjects upon which representations were made. Although the Commission expresses its views in quite brief terms on many subjects of considerable magnitude, it is well aware of the importance of the proposals and has given them the most earnest and full consideration.

New or Improved Port Facilities or Coasting Trade Services

Representations were made to the Commission that port facilities at Fort William and Port Arthur,¹⁰ Toronto,¹¹ Montreal,¹² Trois-Rivières,¹³ Cap-de-la-Madeleine,¹⁴ Quebec,¹⁵ and North Sydney¹⁶ and at Marysville and elsewhere in Newfoundland,¹⁷ should be improved or new facilities constructed. Provision of additional aids to navigation in Newfoundland waters and of repair facilities for small ships in the Newfoundland coasting trade was urged.¹⁸ The Commission was asked to recommend the establishment of cargo and other services between the islands off the coast of New Brunswick and the mainland,¹⁹ a railway car service between Nova Scotia and New Brunswick,²⁰ a new ferry service between West Point, P.E.I., and Buctouche, N.B.,²¹ the restoration of the Minas Basin Ferry service²² and the establishment of a better steamer service on the west coast of Van-

⁹Canadian Car & Foundry Company, Limited, Brief 1; Darling Brothers Limited, Brief 5; Foster Wheeler Limited, Brief 7; The William Kennedy & Sons Limited, Brief 18; Peacock Brothers Limited, Brief 23; T. McAvity & Sons, Limited, Brief 32; Atlas Steels Limited, Brief 33; A. E. Watts Limited, Brief 39; The Canadian Blower & Forge Company Limited, Brief 43; Canadian Westinghouse Company Limited, Brief 60; Crane Limited, Brief 74; The Canadian Fairbanks-Morse Company Ltd., Brief 83; Plymouth Cordage Company of Canada, Ltd., Brief 86, p. 2; Canadian Marconi Company, Brief 88, p. 3; John Inglis Co. Ltd., Brief 99; Project Sales Ltd., Brief 105, p. 5.

¹⁰Government of Manitoba, Brief 77, T.1761-1914 and 5563-5606.

¹¹Toronto Harbour Commissioners, Brief 134, Ex. 155, T.4578-84; Ontario Shipping Intelligence Publishing Company, Brief 95; Toronto Board of Trade, Brief 50, T.4584-96.

¹²St. Lawrence Municipal Bureau, City of Montreal, Brief 84, Ex. 99; Canada Steamship Lines Limited, T.3807.

¹³City of Trois-Rivières, Brief 110; St. Lawrence Corporation Limited, Trois-Rivières, Brief 159 and T.3063-70.

¹⁴City of Cap-de-la-Madeleine, Brief 145, T.3055-63.

¹⁵Board of Trade, City of Quebec, Briefs 89 and 133, Ex. 71.

¹⁶Joint Councils of Burin District, Brief 72.

¹⁷Joint Councils of Burin District, Brief 72; Committee on Coastal Shipping of Newfoundland, Briefs 76 and 162, T.5941-91.

¹⁸Joint Councils of Burin District, Brief 72; Committee on Coastal Shipping of Newfoundland, Briefs 76 and 162, T.5941-91.

¹⁹Grand Manan Board of Trade, Brief 24; Industrial Union of Marine and Shipbuilding Workers of Canada, Local No. 3, International Association of Machinists, Local No. 482, United Brotherhood of Carpenters and Joiners of America, Local 840, International Brotherhood of Electrical Workers, Local 502, and The United Association of Journeymen and Apprentices of Plumbing and Pipefitting Industry of United States and Canada, Local No. 213, all of Saint John, N.B., Brief 16, T.1513-53.

²⁰Industrial Union of Marine and Shipbuilding Workers of Canada, Local No. 3 and associated groups, Saint John, N.B., T.1514.

²¹West Point Ferries Limited, Brief 29, T.1414-30.

²²Parrsboro and District Board of Trade, Parrsboro, N.S., Brief 31, T.1229-43.

couver Island.²³ The Commission was asked to recommend reduced wharfage and port dues for *goélettes* at the port of Quebec.²⁴

The Commission recognizes the strong case put forward by the proponents of each of these projects in the light of their local knowledge. Each project requires careful consideration from a technical point of view, with detailed studies of traffic conditions and engineering requirements. Further, any proposal to meet all these requests requires a balancing of interests in the light of the Government's general financial policy and its overall works programme in this and other fields, and co-ordination of these projects with them. Government machinery now includes departments and agencies whose special function is to make investigation on these subjects and to whom all relevant information is available. They have already made studies of many of the problems and in some instances, particularly in the case of some harbour facilities, work is under way. Their Ministers are responsible to Parliament for general financial policy and the governmental works programme, and can give due weight to the varying interests. The Commission is impressed with the importance of having facilities adequate to utilize fully the St. Lawrence Seaway. The provision of new facilities at the Port of Montreal and requirements for general storage facilities are discussed in Chapter IV and in Chapter VI. The Commission does not feel that, within the limits of its functions and before experience of the effect of the Seaway is gained, it can go further than this discussion. It has therefore forwarded the representations and material in support of them to the appropriate Minister, in most cases the Minister of Transport, with a recommendation for continuing study and investigation.

Two subjects in the general category just outlined merit separate comments.

The Committee on Coastal Shipping of Newfoundland²⁵ stressed particularly the lack of facilities in Newfoundland for dry-docking small vessels ranging from 10 to 400 tons for inspection and repairs. Among other proposals was amendment of the federal Dry Docks Subsidies Act (R.S.C. 1952, Chapter 91) to provide for the establishment of a fourth class of dry docks or of marine railways, with accessory machine shops suitable for these vessels of a type smaller than those included in the three classes now dealt with by that Act. The small vessels trading around the coasts of Newfoundland are often the sole means of transportation to and from the outports. The need for appropriate facilities for their inspection, repair and maintenance cannot be over-emphasized. This need has been increased since the union of Newfoundland with Canada because of the quadrennial inspections required by the Canada Shipping Act. Further, it was urged on the Commission that repair and maintenance facilities of this type could

²³Mr. George Nicholson, Victoria, B.C., Brief 20, T.2081-2100.

²⁴Board of Trade, City of Quebec, Briefs 89 and 133, Ex. 71.

²⁵Briefs 76 and 162, T.5941-91.

not be provided without public assistance. In other areas some of these facilities exist as survivals from the wooden ship era or were provided at a minimum of cost out of war surplus material at the end of World War II.

The Commission is impressed with the need for adequate repair facilities and with the representations that such facilities do not now exist. It recommends that immediate study be given to the early provision of facilities needed to ensure survival and efficient operation of the coasting fleet of small vessels essential to the Newfoundland economy.

The Commission was asked to recommend construction of the Chignecto Canal.²⁰ The advisability of the Canal was studied by the Chignecto Canal Commission under the chairmanship of Dr. Arthur Surveyer. Its report, completed on November 9, 1933, found that the Canal was technically feasible but that it offered "no national or local advantages at all commensurate with the estimated outlay". The Canal was again considered in 1949 and 1950 by the Royal Commission on Transportation under the chairmanship of the Hon. Mr. W. F. A. Turgeon. The Turgeon Commission re-examined the work of the Surveyer Commission, brought the earlier estimates up to date, and considered new evidence. Its report concluded that "there is certainly not sufficient evidence to justify the Commission in recommending a capital expenditure of at least \$100,000,000, with annual charges in the neighbourhood of \$6½ million", and that "the Commission cannot recommend the construction of the Chignecto Canal" (pp. 168-171).

The evidence before the Commission does not establish any substantial change in conditions affecting the Canal since this report was made on February 9th, 1951. The Commission concludes that, in the absence of some indication of material change, its general terms of reference do not require a further lengthy and technical investigation into this particular project which has so recently been specifically investigated.

Safety Equipment and Qualifications of Officers on Coasting Vessels

The Commission was urged to recommend relaxation of the requirements as to qualifications of ships' officers in coasting service and as to safety equipment on coasting vessels,²¹ to meet local conditions of navigation. For example, the substitution on smaller vessels in certain coastal waters of dories for specially-constructed life boats was suggested on the ground that they were equally or more suitable for life saving purposes and more economical. The types of qualifications required of ships' officers and the types and kind of safety equipment required on board ships are strictly technical questions, the determination of which must turn on a knowledge

²⁰Maritime Marine Workers Federation, Halifax, Brief 15; Industrial Union of Marine and Shipbuilding Workers of Canada, Local No. 3, and associated groups, Saint John, N.B., Brief 150; Kent Lines Ltd., Brunswick Motors Ltd., and Irving Pulp and Paper Ltd., Brief 129.

²¹Joint Councils of Burin District, Brief 72; Union Steamships Limited, Vancouver, Brief 93, p. 8; Committee on Coastal Shipping of Newfoundland, Brief 76, p. 10; Zwicker and Company Limited, Lunenburg, N.S., Brief 67.

of and experience with the operation of ships, their navigation and equipment. Technical staffs competent to consider these questions and familiar with them exist in government departments. The terms of reference of the Commission are directed primarily at the broader trading aspects of coasting trade. The Commission did not feel justified in employing technical staff to duplicate the work of those already existing. The personnel and information required to decide whether relaxation is advisable are available in the Government and the Commission has accordingly passed the representations and the material supporting them to the Minister of Transport with the recommendation that a study be made of them.

The Importation of Ships into Canada

Section 22 of the Canada Shipping Act now provides:

"Notwithstanding anything in this Part a ship built outside of Canada shall not, without the consent of the Minister [of Transport], be registered in Canada".

As already explained in Chapter II, in practice no obstacle is placed in the way of importation of a vessel that is less than five years old. On the other hand a ship over five years old may be imported only in the most special circumstances. Several changes were proposed to the Commission. It was urged that the importation of any ship built outside Canada be prohibited. Again, although the discretion of the Minister was not shown to have been exercised in any unsatisfactory way, it was urged that the present law gives rise to uncertainty and that the ministerial discretion should be eliminated and a definite rule substituted for it or alternatively, that importation should be controlled by customs duty only.²⁸

For the reasons already given, in dealing with the major representations for restrictions on the coasting trade, the Commission does not recommend the prohibition of the import of ships or any change in the present customs duties on them. The Commission is impressed, however, with the uncertain position in law of a person desiring to purchase or have a vessel constructed abroad to be brought into Canada. The purchaser must contract for the acquisition of the vessel before he has any legal right to bring it to Canada. The Commission therefore recommends that Section 22 be revised to eliminate the discretion of the Minister to refuse importation of any vessel less than five years old. This accords with present administrative practice and merely puts it into statutory form. The Commission recommends that the importation of a vessel more than five years old continue to be subject to the consent of the Minister.

The B.C. Towboat Owners' Association put forward a more complicated proposal.²⁹ They point out that under Canadian law a corporation incorporated anywhere in the British Commonwealth may own a Canadian ship

²⁸Canadian Shipbuilding and Ship Repairing Association (British Columbia Member Shipyards), Victoria, B.C., Brief 103, p. 14, Brief 139, T.2446; B.C. Towboat Owners' Association, Brief 57, p. 2; Clarke Steamship Company Limited and associated companies, Brief 68, p. 10.

²⁹Brief 57; see also Straits Towing Limited, Brief 117, Ex. 62; Union Steamships Ltd., Brief 93.

although all its shareholders may be aliens. Under United States law a corporation cannot own a United States ship if more than 25% of its shares are owned by aliens. United States competitors of West Coast ship operators can therefore incorporate a Canadian subsidiary company to own Canadian ships and operate them in the Canadian coasting trade although Canadian ship operators cannot incorporate a United States subsidiary to engage in United States coasting trade. It was stated that United States ship operators can therefore in effect operate in both United States and Canadian coasting trade while Canadian ship operators are confined to Canadian coasting trade. The United States operators may with the consent of the Minister of Transport, import vessels into Canada for this purpose.

The Association urged that the importation of vessels be controlled entirely by customs duties and coupled with this proposal a further proposal that a reciprocal arrangement be negotiated with the United States Government to give Canadians the same access to United States coasting trade that United States operators have to Canadian coasting trade or alternatively that the same requirements as to ownership of shares by Canadian shareholders be enacted in Canada to prevent United States subsidiary companies from engaging in the coasting trade. The Association finally urged that if these two recommendations could not be adopted the importation of ships should be prohibited.

The Commission cannot base any recommendation on the negotiation of the reciprocal arrangement advocated. It would be necessary apparently to induce the United States to adopt a new policy that is a radical departure from its present shipping law and no such change could be expected. The Commission does not recommend that Canadian law be changed to require that any percentage of shares in a corporation owning a Canadian ship must be held by Canadian citizens in their own right. To do so Canada would have to abrogate the British Commonwealth Merchant Shipping Agreement, which establishes uniform conditions as to ownership of British ships throughout the Commonwealth. Moreover, unless British ships registered in other parts of the Commonwealth were also to be excluded from the coasting trade, a proposal which the Commission has already rejected, the amendment would be ineffective to accomplish the Association's object, since vessels owned by the United States subsidiaries could be registered in other parts of the Commonwealth and acquire status as British ships. Further, the participation in the coasting trade of vessels owned by Canadian subsidiaries of United States companies is but an example of a much larger question as to investment of United States capital in Canadian industry generally. The Commission does not believe that conditions in the coasting trade warrant a special policy.

Allocation of Cargoes

It was urged upon the Commission that all Crown-owned cargoes shipped in coasting trade should be allocated to Canadian vessels.³⁰ A second proposal was that a definite proportion of all coasting trade cargoes, whether owned by the Crown or privately owned, should be allocated to smaller vessels.³¹

As to the first of these suggestions, the Commission is inclined to the view that its sponsors thought that the amount of government-owned cargo was not large. Government cargoes in fact constitute a large part of the coasting trade. Almost every bushel of wheat that leaves the Lakehead by water is the property of the Canadian Wheat Board, a Crown corporation. In any event the reasons already given for rejecting the proposal that the whole of the coasting trade be confined to Canadian vessels are fully applicable to this proposal to confine the commercial operations of the Crown as a shipper in coasting trade to Canadian vessels. The conclusions this Commission has reached as to the advantages of competitive forces in cheapening transport and as to the benefit to the economy as a whole apply equally to the transport of government-owned cargoes and privately-owned cargoes.

As to the second proposal, the allocation of a proportion of all cargoes to smaller vessels does not appear to be necessary. In many instances the depth of the water, the size of the port, harbour facilities, amount of cargo shipped, quality and price of service and similar practical considerations operate in favour of such *petite navigation* and no laws are required to reinforce these natural advantages. The completion of the Seaway will not deprive these vessels of the essential role they play in the coasting trade. Moreover, the administrative procedures required to carry out such a plan would be extremely burdensome. Allotment of space to each purchaser of goods would be necessary since in general it is a purchaser who determines the mode of shipment. Allotment of a quota to each operator would be required. A system of inspection and verification with penalties to enforce the allocation would be needed. Such extensive regulation would impart rigidity into the pattern of much of the trade, reducing the benefits to be drawn from competition and tending to slow up technological evolution and to reduce efficiency. The possible advantages do not outweigh the substantial disadvantages sufficiently to warrant the adoption of this policy.

Government Loans to Assist Small Ship Construction

The Commission was urged to recommend that government action be taken to make readily available loans for the construction of *goélettes* and cargo carrying schooners of the types that operate along the north shore of

³⁰Capt. Roger Desgagnés, Saint-Joseph-de-la-Rive, County of Charlevoix, Quebec, Brief 9; Newfoundland Canada Steamships Limited, Brief 132, Ex. 33, T.1244-1275.

³¹Capt. Roger Desgagnés, above.

the St. Lawrence and in Newfoundland waters.³² The Commission is impressed with the difficulties which attend the owners of these ships in obtaining loans to finance their construction. Normal commercial credit facilities may not be readily adaptable to this type of financing. The Industrial Development Bank appears, however, to have been established (Chapter 151, R.S.C. 1952) to meet such needs. Its authority includes the power to lend money to finance the building, alteration or repair of ships or vessels. The Commission recommends that the Bank give serious study to the needs of the operators of small ships in the coasting trade to ensure that adequate credit facilities are properly available to them.

Labour Relations

The Commission was urged to recommend that legislation be enacted to regulate the internal government of trade unions, to revise collective bargaining procedures,³³ to apply the federal Industrial Relations and Disputes Investigation Act to the shipbuilding industry,³⁴ to impose compulsory minimum wage and maximum working hours in small coasting vessels³⁵ and to require a labour representative to be appointed to the Canadian Maritime Commission.³⁶

The first two of these proposals raise general questions of policy in labour legislation in matters not peculiar to the coasting trade. They should be dealt with as such and not as a by-product of an investigation directed at another target. As to shipyards, they are presently subject to provincial labour relations legislation. This is in accordance with the pattern of such legislation in Canada whereby local undertakings are not in general subject to federal control in labour matters. Apart from legal constitutional questions that might arise there appears to be no sufficient reason why the general pattern should be departed from in the case of shipyards any more than other local undertakings.

The Commission cannot agree that minimum wage and maximum working hours should be imposed on all smaller vessels operating in the coasting trade. These vessels are frequently operated by family groups under informal employment arrangements in which the persons on board are more in the nature of members of a syndicate. Further, many of these vessels also engage in fishing under profit sharing and other similar schemes of remuneration which this type of regulation would entirely disrupt. The proposed recommendation would put many of these smaller vessels now rendering useful service, particularly in Newfoundland and St. Lawrence waters, out of business.

³²Capt. Roger Desgagnés, Saint-Joseph-de-la-Rive, County of Charlevoix, Quebec, Brief 9.

³³Union Steamships Limited, Vancouver, Brief 115, Ex. 57, p. 5, T.2307-70.

³⁴Canadian and Catholic Confederation of Labour and National Metal Trades Federation, Montreal, Brief 101, p. 81.

³⁵Canadian Congress of Labour, Ottawa, Brief 75, p. 7.

³⁶Canadian and Catholic Confederation of Labour and National Metal Trades Federation, Montreal, Brief 101.

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The Commission does not agree with the proposal that a labour representative on the Canadian Maritime Commission is essential. Boards set up to function on general policy in wide fields cannot have representatives of every interest that may be affected by their operations. The functions of the Canadian Maritime Commission extend over all shipping problems. Only a small proportion of these require consideration of labour problems. The Canadian Maritime Commission does not therefore, seem to be a body that calls for a representative appointment of this nature. Moreover the Canadian Maritime Commission is itself advised by numerous advisory committees which include an advisory labour panel.

Free Ports

The establishment of two separate free ports, one at Trois-Rivières³⁷ and one at a port to be established on the Burin Peninsula in Newfoundland,³⁸ was proposed to the Commission. The operation of free ports is essentially for transshipment or processing, free of customs inconveniences, of cargoes in international trade. Such free ports might contribute something to coasting trade by providing a depot from which goods would move into coasting trade but the considerations of weight governing their establishment are primarily concerned with international trading. Moreover, proposals for free ports, their number and location in competing Canadian centres, have been extensively studied by government departments which have also studied the experience at free ports in other countries. For these reasons, this Commission does not consider it would be appropriate to make any recommendation.

Tolls and Charges for all Port and Canal Facilities

Parliament in enacting the St. Lawrence Seaway legislation has provided for the charging of tolls to meet the costs of construction and maintenance of the new facilities. The Canadian Pacific Railway Company submitted that vessels using all canals or other shipping facilities constructed at any time by public monies should be required to pay tolls and charges on the ground that, to the extent that these transportation facilities are made available without charge, shipping as a form of transport is being subsidized in its competition with the railways.³⁹ It was said that the railway companies pay fully for the costs of the rights of way, terminals and other facilities which they use in the operations of the railway and also pay local taxes.

An evaluation of the C.P.R.'s contention would raise broad questions of public policy in relation to highways and air transportation facilities as well as railways and water transport facilities. All of these have over the years

³⁷Corporation of the City of Trois-Rivières, Brief 110, p. 8.

³⁸Newfoundland Transportation Co. Ltd., St. John's, Newfoundland, Brief 4; Joint Councils of Burin District, Brief 72, pp. 3-4, T. 1082.

³⁹Canadian Pacific Railway Co., Brief 87.

received very substantial public subsidies in money and public lands or in other forms. It is well known that the public aid granted to various forms of transportation in the past has been based not on the concept of equal treatment for all transportation agencies, but rather upon consideration of what forms of public investment in aids to transportation might best contribute from time to time to the general economic development of Canada. The proper scope and apportionment of public expenditure to assist in the creation and maintenance of facilities for all the different kinds of transportation was and is a legitimate and important subject for public discussion. It cannot have been intended, however, that this Commission, as a by-product of an inquiry into current problems relating to the coasting trade, should inquire into all problems of inequalities in the whole field of transportation. Such an inquiry would involve consideration of all arrangements for public assistance to transportation media by land, sea or air since the first facilities were established in this country. It would require an evaluation of the alleged inequalities and of the extent to which the economy has adjusted to them if they exist, and a weighing of the relative types of compensatory action in this whole broad field. The Commission makes no recommendation.

Additional Government Agencies

Several recommendations were made to the Commission suggesting the establishment of new or additional government agencies relating to transportation. One of these, the establishment of a single regulatory body, has been dealt with in Chapter X.

The establishment of an Atlantic Provinces Shipping Board with power to deal fully with all situations properly within Canadian control in both coastal and deep-sea shipping was urged.⁴⁰ The functions of the proposed regulatory body were not made clear to the Commission. To the extent that it would be to concern itself with deep-sea shipping the proposal is outside the terms of reference of the Commission. As far as coasting trade is concerned it does not seem that regional problems can be separated so distinctly from national problems that the establishment of a separate regional controlling agency can be justified. If such separation cannot be made, then obviously, if regulatory bodies are to be established, the existence of two—a national and a regional one—would lead to conflict and confusion. The Commission does not adopt this recommendation.

The establishment of an advisory body on shipping was advocated.⁴¹ This proposal is based on a misconception since such an agency now exists in the Canadian Maritime Commission which in turn consults many advisory committees.

⁴⁰Kent Lines Limited, Brunswick Motors Ltd., and Irving Pulp and Paper Ltd., Brief 129, Ex. 164.

⁴¹Montreal Trades and Labour Council, Brief 153, T.3653; Quebec Federation of Labour, Brief 155, T.3631.

Extension of Existing Regulation

A request was put forward on behalf of the residents of Manson's Landing in British Columbia that the cargo and passenger services from it to Vancouver be regulated in the public interest.⁴² Machinery exists for this regulation under Part III of the Transport Act. The information furnished to the Commission is not adequate for it to form an opinion as to the advisability of such regulation. It accordingly makes no recommendation but has drawn the representations and material supporting them to the attention of the Minister of Transport.

Withdrawal of Income Tax Exemption to Non-resident Operators

The Income Tax Act exempts from taxation income of a non-resident person earned in Canada from the operation of a ship if the country where he resides grants substantially similar relief to persons resident in Canada. Reciprocal arrangements exist between Canada and, among other countries, the United Kingdom and the United States. It was proposed that revenue earned by non-Canadian ships in Canada's coasting trade, should be taxed in this country.⁴³ The difference in the incidence of taxation has already been considered. The reciprocal arrangement between Canada and the United States enables Canadian vessels to trade in and out of United States ports in international trade without incurring tax liability. The provision also serves a major taxation purpose by avoiding difficulties in income tax administration and eliminating double taxation. It is a standard provision in a great majority of international tax conventions. The Commission does not recommend the proposal.

Exemption of Ship Operators from Combines Investigation Act

Certain shipowners proposed that the Combines Investigation Act should not apply to coasting shipping so that ship operators could reach agreements as to services to be supplied and freight rates.⁴³ This practice is not uncommon in international trade. As to coasting trade, a Royal Commission in 1923 found that there was a combine in the operation of shipping on the Great Lakes which led to an enhancement of insurance charges and freight rates. In the light of this experience, the Commission does not feel that there are any special circumstances in coasting shipping to justify it being accorded different treatment within the present framework of Combines legislation. It therefore makes no recommendation.

⁴²Manson's Landing Community Activities Committee, Cortes Island, B.C., Brief 116, T.2294-5.

⁴³Union Steamships Ltd., Vancouver, Brief 93, p. 8.

APPENDIX I

COMMISSION

appointing

THE HONOURABLE MR. JUSTICE W. F. SPENCE, ET AL

Commissioners under Part I of the Inquiries Act to inquire
into the coastal trade of Canada.

DATED 1st March, 1955.

RECORDED 6th April, 1955.

Film 22

Document 169.

(sgd.) H. W. Doyle

FOR DEPUTY REGISTRAR GENERAL OF CANADA.

Refer. No. 146131

(sgd.) Vincent Massey

CANADA

[SEAL]

(sgd.) F. P. Varcoe

DEPUTY ATTORNEY GENERAL,
CANADA.

ELIZABETH THE SECOND, by the Grace of
God of the United Kingdom, Canada and Her other
Realms and Territories QUEEN, Head of the Common-
wealth, Defender of the Faith.

TO ALL TO WHOM these Presents shall come or whom the same may in anywise concern,

GREETING:

WHEREAS representations have been received respecting the coasting trade of Canada, including the coasting trade on the Great Lakes, and that it is deemed expedient in the public interest to inquire into the matters involved, in order that all questions within the jurisdiction of Parliament, including questions with respect to the provisions of Part XIII of the Canada Shipping Act, Coasting Trade of Canada, arising out of the transportation by water, or by land and water, of goods and passengers from one place in Canada to another place in Canada, including the Great Lakes, may be inquired into and reported upon.

AND WHEREAS it is expedient and Our Governor in Council has, by Order P.C. 1955-308 of the first day of March in the year of Our Lord one thousand nine hundred and fifty-five (copy of which is hereto annexed) authorized the appointment under Part I of the Inquiries Act, Chapter 158 of the Revised Statutes of Canada, 1952, of our Commissioners therein and hereinafter named to inquire into and report upon all questions within the jurisdiction of Parliament, including questions with respect to Part XIII of the Canada Shipping Act, Coasting Trade of Canada, arising out of the transportation by water, or by land and water, of goods and passengers from one place in Canada to another place in Canada, including the Great Lakes, and upon relevant matters which may in the course of the Inquiry arise or develop and which, in the opinion of the Commissioners, should be included within the scope of the Inquiry and Report and, without restricting the generality of the foregoing, in particular to inquire into and report upon the following:

- (a) the relationship of the coasting trade of Canada, including the Great Lakes, to Canadian shipping and ship building, and the effect on such shipping and ship building of the participation in the coasting trade of Canada, including the Great Lakes, of ships or other marine craft registered or built outside of Canada;
- (b) the probable effects of the development of the St. Lawrence Seaway upon the coasting trade of Canada, including the Great Lakes;
- (c) the relationship of the coasting trade of Canada, including the Great Lakes, to the domestic and international trade of Canada and to Canada's external relations; and the effect of the participation in the coasting trade of Canada, including the Great Lakes, by ships or other marine craft registered or built outside of Canada upon the domestic and international trade of Canada, and Canada's external relations; and
- (d) the necessity, if any, of establishing different policies and prescribing special conditions with respect to the coasting trade of Canada, including the Great Lakes, applicable to particular parts of Canada.

NOW KNOW YE that by and with the advice of Our Privy Council for Canada, We do by these Presents nominate, constitute and appoint the HONOURABLE MR. JUSTICE W. F. SPENCE, of The High Court of Justice for Ontario, of the City of Toronto, in the Province of Ontario; W. N. WICKWIRE, ESQUIRE, Barrister at Law, of the City of Halifax, in the Province of Nova Scotia; and MARCEL BELANGER, ESQUIRE, Chartered Accountant, of the City of Quebec, in the Province of Quebec, to be Our Commissioners to hold and conduct such inquiry.

TO HAVE, HOLD, EXERCISE and ENJOY the said office, place and trust unto you the said W. F. SPENCE, W. N. WICKWIRE, and MARCEL BELANGER, together with the rights, powers, privileges and emoluments unto the said office, place and

Royal Commission on Coasting Trade

trust of right and by law appertaining, and as are more particularly set out in the said Order in Council, during Our pleasure.

AND We do hereby authorize Our said Commissioners

- (i) to adopt such procedure and methods as they may deem expedient for the conduct of the Inquiry and to alter or change the same from time to time;
- (ii) to engage the services of such technical advisers, clerks, reporters and assistants as they may deem necessary or advisable at rates of remuneration and reimbursement of expenses to be approved by the Treasury Board.

AND We do hereby require all government departments to afford to Our said Commissioners such assistance and co-operation as may be required in the matter of the said Inquiry.

AND We do hereby require and direct Our said Commissioners to report to Our Governor in Council the result of their investigation.

AND We do further appoint the said W. F. SPENCE, to be Chairman of Our said Commissioners.

IN TESTIMONY WHEREOF We have caused these Our Letters to be made Patent and the Great Seal of Canada to be hereunto affixed.

WITNESS; Our Right Trusty and Well-beloved Counsellor, Vincent Massey, Member of Our Order of the Companions of Honour, Governor General and Commander-in-Chief of Canada.

AT OUR GOVERNMENT HOUSE, in Our City of Ottawa, this First day of March in the year of Our Lord one thousand nine hundred and fifty-five and in the Fourth year of Our Reign.

BY COMMAND,

(sgd.) C. Stein

UNDER SECRETARY OF STATE.

P.C. 1955-308

Certified to be a true copy of a Minute of a Meeting of the Committee of the Privy Council, approved by His Excellency the Governor General on the 1st March 1955.

The Committee of the Privy Council have had before them a report from the Minister of Transport, submitting:

That representations have been received respecting the coasting trade of Canada, including the coasting trade on the Great Lakes, and that it is deemed expedient in the public interest to inquire into the matters involved, in order that all questions within the jurisdiction of Parliament, including questions with respect to the provisions of Part XIII of the Canada Shipping Act, Coasting Trade of Canada, arising out of the transportation by water, or by land and water, of goods and passengers from one place in Canada to another place in Canada, including the Great Lakes, may be inquired into and reported upon.

The Committee, therefore, on the recommendation of the Minister of Transport, advise that:

- (1) a Commission do issue, pursuant to Part I of the Inquiries Act, appointing The Honourable Mr. Justice W. F. Spence, of the High Court of Justice for Ontario, of the City of Toronto in the Province of Ontario, as Chairman, W. N. Wickwire, Barrister at Law, of the City of Halifax, in the Province of Nova Scotia; and Marcel Bélanger, Chartered Accountant, of the City of Quebec in the Province of Quebec,

as Commissioners to inquire into and report upon all questions within the jurisdiction

of Parliament, including questions with respect to Part XIII of the Canada Shipping Act, Coasting Trade of Canada, arising out of the transportation by water, or by land and water, of goods and passengers from one place in Canada to another place in Canada, including the Great Lakes, and upon relevant matters which may in the course of the Inquiry arise or develop and which, in the opinion of the Commissioners, should be included within the scope of the Inquiry and Report and, without restricting the generality of the foregoing, the Commissioners shall inquire into and report upon the following matters:

- (a) the relationship of the coasting trade of Canada, including the Great Lakes, to Canadian shipping and ship building, and the effect on such shipping and ship building of the participation in the coasting trade of Canada, including the Great Lakes, of ships or other marine craft registered or built outside of Canada;
- (b) the probable effects of the development of the St. Lawrence Seaway upon the coasting trade of Canada, including the Great Lakes;
- (c) the relationship of the coasting trade of Canada, including the Great Lakes, to the domestic and international trade of Canada and to Canada's external relations; and the effect of the participation in the coasting trade of Canada, including the Great Lakes, by ships or other marine craft registered or built outside of Canada upon the domestic and international trade of Canada, and Canada's external relations; and
- (d) the necessity, if any, of establishing different policies and prescribing special conditions with respect to the coasting trade of Canada, including the Great Lakes, applicable to particular parts of Canada;

(2) the powers hereby conferred on the said Commissioners may be exercised by any two of the said Commissioners;

(3) the said Commissioners be authorized to adopt such procedure and methods as they may deem expedient for the conduct of the Inquiry and to alter or change the same from time to time;

(4) the said Commissioners be authorized to engage the services of such technical advisers, clerks, reporters and assistants as they may deem necessary or advisable at rates of remuneration and reimbursement of expenses to be approved by the Treasury Board;

(5) the said Commissioners be granted travelling expenses and a living allowance in such amount as may be approved by the Treasury Board, while absent from their place of residence and engaged in the conduct of the said Inquiry;

(6) all government departments afford to the said Commissioners such assistance and co-operation as may be required in the matter of the said Inquiry;

(7) the said Commissioners submit their report to the Governor in Council; and

(8) the expenses of and incidental to the said Inquiry be paid out of money appropriated by Parliament.

R. B. BRYCE,
Clerk of the Privy Council.

APPENDIX II

List of Briefs

Briefs 1—112 inclusive were published in 4 separate volumes. They are indicated in this index as B-1, B-2, etc. (Brief 1, Brief 2, etc.). Subsequent briefs must be sought in transcript, references to which are given thus: T.4075 means page 4075 of the transcript of public hearings.

Where briefs were presented or explained in public hearings, references are also given to these passages in the transcript.

Alberta Federation of Agriculture	Edmonton	B-119 Ex. 64	T.2506
Alberta, Province of, (Department of Agriculture)	Edmonton	B-2	
Alberta, Province of (additional submission)	Edmonton	B-126 Ex. 162	T.4748
Algoma Steel Corporation Ltd.	Sault Ste. Marie, Ont.	B-106	T.4414
Alport, Frederic	Orillia, Ont.	B-137	T.4435
Aluminum Company of Canada Ltd.	Montreal	B-41	T.3282
Anticosti Shipping Company	Montreal	B-19	T.3145
Atlas Steels Limited	Welland, Ont.	B-33	T.4652
Bathurst Mining Corporation Ltd.	Toronto	B-40	
Bowater's Newfoundland Pulp and Paper Mills Limited	Corner Brook, Nfld.	B-17	T.697
Bowater Steamship Co. Ltd. (submitted on their behalf by Furness, Withy & Co. Ltd., Montreal, P.Q.)	London, England	B-14	
Branch Lines Limited	Montreal	B-78	T.4278
British Columbia, Province of	Victoria	B-111	T.1917
British Columbia Loggers' Assoc.	Vancouver	B-59	T.2268, 5412
British Columbia Lumber Manufacturers Association; Consolidated Red Cedar Shingle Association of B.C.; The Plywood Manufacturers' Association of B.C.	Vancouver	B-55	T.2178, 5412
British Columbia Towboat Owners' Association	Vancouver	B-57	T.2122, 2431
British Shipping, General Council of	London, England	B-26	
British Yukon Ocean Services Ltd.	Vancouver	B-98	T.2240
Burin District, Joint Councils of	Burin, Nfld.	B-72	T.1076
Burrard Dry Dock Company Limited	Vancouver	B-139	T.2446
Cabot Carbon of Canada Ltd.	Sarnia, Ont.	B-8	
Canada Steamship Lines Ltd.	Montreal	B-80	T.3790
Canada Steamship Lines Ltd. (additional submission)	Montreal	B-140 Ex. 95	T.3790
Canada Steamship Lines Ltd. (additional submission)	Montreal	B-161	T.4925

Canada Steamship Lines Ltd. (additional submission)	Montreal	B-163	T.4968
Canada Steamship Lines Ltd. (additional submission)	Montreal	B-171	T.5189, 5845
Canadian Atlantic Fishing Assoc.	Halifax	B-141	T.1342
Canadian Blower & Forge Co. Ltd.	Kitchener, Ont.	B-43	T.4795
Canadian Car & Foundry Co. Ltd.	Montreal	B-1	
Canadian and Catholic Confederation of Labour and National Metal Trades Federation	Montreal	B-101	T.105
Canadian Congress of Labour	Ottawa	B-75	T.65
Canadian Federation of Agriculture	Ottawa	B-127	Ex. 161 T.4663
Canadian Federation of Agriculture (additional submission)	Ottawa	B-172	T.5245, 5430
Canadian Industrial Preparedness Association	Montreal	B-52	T.3104
Canadian Industrial Traffic League Inc.	Toronto	B-69	T.326
Canadian Marconi Company	Montreal	B-88	T.3242
Canadian Maritime Transport Workers' Assoc.	Montreal	B-51	
Canadian National Railways	Montreal	B-92	T.8
Canadian National Railways (additional submission)	Montreal	B-142	T.4084, 5636
Canadian Pacific Railway Company	Montreal	B-87	T.28
Canadian Pacific Railway Company (additional submission)	Montreal	B-143	T.3952, 5610
Canadian Pulp and Paper Assoc.	Montreal	B-71	T.3664
Canadian Shipbuilding and Ship Repairing Association	Ottawa	B-82	T.216
Canadian Shipbuilding and Ship Repairing Association (additional submission)	Ottawa	B-166	T.5060, 5711
Canadian Shipbuilding and Ship Repairing Association, British Columbia Member Shipyards of	Victoria	B-103	T.1943
Canadian Shipowners Association	Ottawa	B-38	T.289, 2263
Canadian Shipowners Association (additional submission)	Ottawa	B-169	T.5155, 5900
Canadian Shipping and Marine Engineering News	Toronto	B-12	T.4597
Canadian Shipping and Marine Engineering News (additional submission)	Toronto	B-144	T.4600, 5693
Canadian Vickers Limited	Montreal	B-81	T.4193
Canadian Vickers Limited (additional submission)	Montreal	B-164	T.5039
Canadian Westinghouse Co. Ltd.	Hamilton	B-60	T.4538
Cap-de-la-Madeleine, Cité de	Cap-de-la-Madeleine, P.Q.	B-145	T.3055
Clarke Steamship Co. Ltd.; Terra Nova Steamship Co. Ltd.; Gulf Ports Steamship Co. Ltd.; La Cie de Transport du Bas St-Laurent Ltée; Magdalen Islands	Montreal	B-68	T.3437, 5503

Royal Commission on Coasting Trade

Transportation Co. Ltd.; La Traverse Rivière-du-Loup-St-Siméon, Ltée			
Collingwood Shipyards Limited and Town of Collingwood	Collingwood, Ont.	B-63	T.4452, 4498
Collingwood, Town of	Collingwood, Ont.	B-138	T.4445
Consolidated Paper Corp. Ltd.	Montreal	B-37	T.3115
Constantine Lines Limited	Middlesbrough, England	B-66	T.802
Crane Limited	Montreal	B-74	T.3215
Darling Brothers Ltd.	Montreal	B-5	T.3222
Davie Shipbuilding Limited	Lauzon, P.Q.	B-79	T.2943
Davie Shipbuilding Limited (additional submission)	Lauzon, P.Q.	B-136	T.2917, 4928
Davie & Sons Ltd., Geo. T.	Lauzon, P.Q.	B-135	T.2883
Desgagnés, Capt. Roger	St-Joseph-de-la Rive (Charlevoix), P.Q.		
Dingwall Shipping Co. Ltd.	Halifax	B-85	
Dingwall Shipping Co. Ltd. (additional submission)	Halifax	B-167 Ex. 207	T.5057
Dominion Marine Association	Toronto	B-28	T.341
Dominion Marine Association (additional submission)	Toronto	B-146 Ex. 7	T.353
Dominion Marine Association (additional submission)	Toronto	B-147	T.3690
Dominion Marine Association (additional submission)	Toronto	B-148	T.3947
Dominion Marine Association (additional submission)	Toronto	B-160 Ex. 165	T.4921
Dominion Marine Association (additional submission)	Toronto	B-168	T.5115, 5660
Dominion Steel & Coal Corporation Ltd.	Sydney, N.S.	B-149	T.1098
Dundee, Perth and London Shipping Co. Ltd.	Dundee, Scotland	B-97	
Ecole de Marine de Rimouski	Rimouski, P.Q.	B-10	T.3015
Fairbanks-Morse Co. Limited, Canadian	Montreal	B-83	T.3267
Federated Co-operatives Limited	Saskatoon	B-45	
Ferguson Industries Limited	Pictou, N.S.	B-102	T.1276
Fisheries Council of Canada	Ottawa	B-104	
Fort William, City of	Fort William, Ont.	B-46	T.1605, 1682
Foster Wheeler Limited	St. Catharines, Ont.	B-7	T.4841
Furness, Withy & Co. Ltd.	Montreal	B-13	T.856
Furness, Withy & Co. Ltd. (additional submission)	Montreal	B-170	T.5185, 5390
Gillespie-Munro Limited	Montreal	B-91	T.3395
Grand Manan Board of Trade	Grand Manan, N.B.	B-24	
Gypsum, Lime and Alabastine Canada Ltd.	Toronto	B-94	T.4804

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Hamilton Chamber of Commerce	Hamilton	B-61	T.4503
Hamilton Chamber of Commerce (additional submission)	Hamilton	B-128 Ex. 154	T.4504
Hudson Bay Route Association	Saskatoon	B-58	
Hudson Bay Route Association (additional submission)	Saskatoon	B-124 Ex. 69	T.2740
Industrial Union of Marine and Shipbuilding Workers of Canada, Local No. 3 and Associated Groups	Saint John, N.B.	B-16	T.1513
Inglis Co. Ltd., John	Toronto	B-99	T.4855
Inglis Co. Ltd., John (additional submission)	Toronto	B-151	T.4857
Interprovincial Farm Union Council	Saskatoon	B-112	T.2715
Iron Ore Company of Canada	Montreal	B-108	T.3425
Iron Ore Transport Co. Ltd.	Montreal	B-109	T.3432
Island Tug & Barge Limited and Young & Gore Tugboats Ltd.	Victoria	B-54	T.2022
Kennedy & Sons Ltd., William	Owen Sound, Ont.	B-18	T.4482
Kent Lines Limited; Brunswick Motors Limited; Irving Pulp & Paper Ltd.	Saint John, N.B.	B-129 Ex. 164	T.4481
Kent Lines Limited; Brunswick Motors Limited; Irving Pulp & Paper Ltd. (additional submission)	Saint John, N.B.	B-173	T.5254, 5374
Labour Progressive Party, B.C.	Vancouver	B-118 Ex. 63	T.2489
Lunenburg Foundry & Engineering Ltd.	Lunenburg, N.S.	B-130 Ex. 34	T.1299
MacMillan & Bloedel Limited	Vancouver	B-42	T.2200
Manitoba Federation of Agriculture and Co-operation	Winnipeg	B-125 Ex. 70	T.2765
Manitoba, Province of	Winnipeg	B-77	T.1761, 5563
Manson's Landing Community Activities Committee	Manson's Landing, B.C.	B-116	T.2294
Marine Industries Limited	Sorel, P.Q.	B-152	T.4311
Marine Industries Limited (additional submission)	Sorel, P.Q.	B-165	T.5052, 5885
Maritime Marine Workers' Federation (C.C.L.)	Halifax	B-15	T.1160
Maritimes Transportation Commission	Moncton, N.B.	B-100	T.1088, 1431, 5397
Markland Shipping Co. Ltd.	Liverpool, N.S.	B-131 Ex. 35	T.1349
McAvity & Sons Ltd., T.	Saint John, N.B.	B-32	
Midland Shipyards Limited and Town of Midland, Ont.	Midland, Ont.	B-64	T.4452, 4498
Montreal, St. Lawrence Municipal Bureau of	Montreal	B-84	T.3076
Montreal Trades and Labour Council	Montreal	B-153	T.3648
National Association of Marine Engineers of Canada, Inc.	Vancouver	B-3	T.2370, 2429
National Council of Shipyard Unions	Halifax	B-107	T.1553
Newfoundland Canada Steamships Ltd.	Halifax	B-132 Ex. 33	T.1244
Newfoundland, Committee on Coastal Shipping of	St. John's, Nfld.	B-76	T.956

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Newfoundland, Committee on Coastal Shipping of (additional submission)	St. John's, Nfld.	B-162 Ex. 236	T.5941
Newfoundland Fluorspar Limited	St. Lawrence, Nfld.	B-48	T.783
Newfoundland, Province of	St. John's, Nfld.	B-56	T.503, 5334
Newfoundland-Great Lakes Steamships Limited	Toronto	B-70	T.901, 5930
Newfoundland Transportation Co. Ltd.	St. John's, Nfld.	B-4	
Nicholson, George	Victoria	B-20	T.2081
North Star Cement Limited	Corner Brook, Nfld.	B-11	
Ontario Mayors and Reeves, Assoc. of	Toronto	B-53	
Ont. Shipping Intelligence Publishing Co.	Toronto	B-95	T.4822
Owen Sound Chamber of Commerce	Owen Sound, Ont.	B-27	T.4406
Parrsboro and District Board of Trade	Parrsboro, N.S.	B-31	T.1229
Peacock Brothers Limited	Montreal	B-23	
Plymouth Cordage Co. of Canada Ltd.	Welland, Ont.	B-86	
Port Arthur Chamber of Commerce	Port Arthur, Ont.	B-35	T.1607
Port Arthur Shipbuilding Co. Ltd.	Port Arthur, Ont.	B-73	T.1639
Prince Edward Island, Province of	Charlottetown	B-154	T.1350
Project Sales Ltd.	Montreal	B-105	T.3187
Quebec Board of Trade	Quebec	B-89	T.2811
Quebec Board of Trade (additional submission)	Quebec	B-133 Ex. 71	T.2811
Quebec Federation of Labour	Montreal	B-155	T.3622
Rimouski Marine School	Rimouski, P.Q.	B-10	T.3015
Saguenay Terminals Ltd.	Montreal	B-62	T.3330
Saint John Dry Dock Company Ltd.	Saint John, N.B.	B-156	T.1464
Saskatchewan Farmers Union	Saskatoon	B-121 Ex. 66	T.2587
Saskatchewan, Province of	Regina	B-90	T.2507
Saskatchewan, Province of (additional submission)	Regina	B-120 Ex. 65	T.2509
Saskatchewan, Province of (Department of Agriculture)	Regina	B-21	
Saskatchewan Wheat Pool	Regina	B-122 Ex. 67	T.2602, 2741
Shaw Steamship Co. Ltd.	Halifax	B-6	
Shipbuilding Conference of the United Kingdom	London, England	B-25	T.3201
Shipping Federation of Canada	Montreal	B-65	T.3735, 5701
Shipping Federation of Canada (additional submission)	Montreal	B-157	T.3786
Simcoe County Council, Industrial Committee of, and Advisory Committee on Local Employment, Midland Area	Midland, Ont.	B-30	T.4368
St. Lawrence Corporation Limited	Trois-Rivières, P.Q.	B-159	T.3063
St. Lawrence Shipowners' Assoc. Inc.	Quebec	B-49	T.2974
St. Lawrence Shipowners' Assoc. Inc. (additional submission)	Quebec	B-158	T.2975

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Straits Towing Ltd.	Vancouver	B-117	Ex. 62	T.2481
Sun Steamships Limited	Toronto	B-22		
Swainson, Neil A.	Victoria	B-113	Ex. 53	T.2105
Three Rivers, City of (See Trois-Rivières, Cité des)				
Tombs Limited, Guy	Montreal	B-44		
Toronto Board of Trade	Toronto	B-50		T.4584
Toronto Harbour Commissioners	Toronto	B-134	Ex. 155	T.4578
Trades and Labour Congress of Canada	Ottawa	B-34		T.170
Trois-Rivières, Cité des	Trois-Rivières, P.Q.	B-110		T.3026
Union Steamships Limited	Vancouver	B-93		T.2312
Union Steamships Limited (additional submission)	Vancouver	B-115	Ex. 57	T.2307
United Steelworkers of America, Local 5055	Port Arthur, Ont.	B-114		T.1706
Vancouver, New Westminster and District Metal Trades Council; Victoria & District Metal Trades Council; Shipyard General Workers' Federation	Vancouver	B-36		T.2393
Watts Limited, A. E.	Ville-St-Laurent, P.Q.	B-39		T.3231
West Point Ferries Limited	O'Leary, P.E.I.	B-29		T.1414
Windsor Chamber of Commerce	Windsor, Ont.	B-47		T.4846
Winnipeg Chamber of Commerce	Winnipeg	B-96		T.2657
Winnipeg Chamber of Commerce (additional submission)	Winnipeg	B-123	Ex. 68	T.2657
Zwicker & Company Limited	Lunenburg, N.S.	B-67		T.1329

APPENDIX III

List of Exhibits

Most of the exhibits numbering 1-257 were collected and bound in six separate volumes, entitled Appendix I, II, etc., and are referred to in this index as appearing in App. I, p. 10; App. V, p. 913, etc.

Certain exhibits were read into the transcript and were not included in the bound Appendix. Other exhibits such as publications and maps were not duplicated. In these cases references are given thus: T.4958, meaning page 4958 of the transcript of public hearings.

1. Queen's Commission and Terms of Reference—March 1, 1955, P.C. 1955-308, March 1, 1955—(setting up Royal Commission on Coasting Trade).
—App. I, p.1
2. Canadian Shipbuilding and Ship Repairing Association.
Report on "Revision of Federal Transportation Policy" prepared for President of U.S.A. by Presidential Advisory Committee on Transport Policy and Organization—April 1955. (Recommended greater reliance on competitive force in transportation, and maintenance of strong common carrier system for expanding economy and national security.)
—App. I, p.10
3. Canadian and Catholic Confederation of Labour, and National Metal Trades Federation.
Letter from Hon. Ian A. MacKenzie, Minister of Veterans' Affairs to the "Shipyard Workers of Vancouver"—June 4, 1945—(with regard to postwar shipbuilding in Canada).
4. Canadian Shipbuilding and Ship Repairing Association.
List of orders for commercial vessels on hand in shipyards, May 1, 1955.
—App. I, p.51
5. Canadian Shipowners Association.
List of member companies.
—App I, p.53
6. Canadian Industrial Traffic League.
List of member companies.
—App. I, p.55
7. Dominion Marine Association.
Supplementary brief submitted at first Ottawa Hearings outlines Association's aims, lists member and associate companies and their gross tonnage, describes navigation schools operated by Association, and includes statistical data showing:
 - (1) variability of ocean tramp freight rates over time, and between routes and cargoes. (Ex. 3 & 4)
 - (2) Lake freight rates on wheat, comparison of Lake rates and ocean rates. (Ex. 5 & 6)
 - (3) movement of grain from Lakehead and storage on Lake ships 1945-1954. (Ex. 7 & 8)
 - (4) movement of iron ore to and from Canadian Great Lakes ports in 1953. (Ex. 9)
—App. I, p.56
8. Dominion Marine Association.
Proposal for Great Lakes Treaty between U.S.A. and Canada for mutual defence (prepared by Lake Carriers' Association, Cleveland, Ohio).
—App. I, p.81

9. Dominion Marine Association.
Annual Report of the Lake Carriers' Association, 1954, Cleveland, Ohio. —T.366
10. Dominion Marine Association.
 - (a) Report of Conference on the Operation of Dominion Legislation and Merchant Shipping Legislation—London, 1929.
 - (b) Summary of Proceedings of Imperial Conference—London, 1930.
 - (c) Appendices to Summary of Proceedings of Imperial Conference—London, 1930. —App. I, p.123B
11. Dominion Marine Association.
Commonwealth of Australia Navigation Act, 1912-1953. —App. I, p.123C
12. Dominion Marine Association.
Agreed Statement of the Law. (Deals with British Commonwealth Merchant Shipping Agreement, December 10, 1931; international law; Boundary Waters Treaty, January 11, 1909; St. Lawrence Deep Waterway Treaty, July 18, 1932; Agreement Between Canada and the United States of America for the Promotion of Safety on the Great Lakes by means of Radio, February 21, 1952; control of grain-carrying ships; Commission's terms of reference; Australian regulation of coasting trade (letter from Malleon Stewart & Co., Melbourne, Australia, June 27, 1955); U.K. Navigation Acts 1651-1849; applicable law of the United States.)
Table comparing crew complement and basic wage rates for 10,000-ton bulk carrier, ocean-going, on United Kingdom and on Canadian registry.
Tabulation of statistical data on vessels of Canadian registry trading on the Great Lakes. —App. I, p.124
13. Dominion Marine Association.
Charts showing distance between points on Great Lakes; Lake Superior; Lake Michigan; Lake Huron and St. Mary's River; Lake Erie and St. Clair, Detroit and Niagara Rivers; Lake Ontario and St. Lawrence River. —App. I, p.145A
14. Dominion Marine Association.
Annual Report of Great Lakes Protective Association, 1954, Cleveland, Ohio. —T.462
15. Dominion Marine Association.
Two charts of statistical data on Canadian-registered vessels trading on Great Lakes, and carrying capacity of fleets of member companies—1945-1954. (Letter from Thorne, Mulholland, Howson & McPherson, Toronto.) —App. I, p.146
16. Government of the Province of Newfoundland.
Statements showing class rates from Halifax, N.S. and Saint John, N.B. to Corner Brook and to St. John's, Newfoundland, effective 1954 and 1955; class rates from illustrative Canadian origins to special Newfoundland destinations and percentage increases resulting from application of rate increases to a base year compared with present rate levels. —App. I, p.151
17. Government of the Province of Newfoundland.
Statement of all rail and rail/water class rates (March 1, 1951) compared with normal class rates from illustrative Canadian origins to specified Newfoundland destinations. —App. I, p.162
18. Government of the Province of Newfoundland.
Statements showing history of normal all rail, rail/water and all water class rates, also resulting summer rate differential from Montreal and from Toronto to St. John's, Newfoundland.

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- Statement showing commodities and freight rates from Montreal to St. John's, Newfoundland, during open navigation period. —App. I, p.165
19. Government of the Province of Newfoundland.
Agreement between Canadian National Railways and Furness, Withy & Company Limited. —App. I, p.178
20. Government of the Province of Newfoundland.
Statistical data on Corner Brook shipments of Bowater's Pulp and Paper Mills Limited including incoming and outgoing cargoes 1951-54, cost of marine transportation, total sales and freight rates in 1954, and types of ships used. —App. II, p.193
21. Government of the Province of Newfoundland.
List of main industries in Newfoundland.
List of current members of Newfoundland Branch of the Canadian Manufacturers Association.
Copy of Branch's Annual Report—1955 (gives background of Confederation and its effect on industry and transportation). —App. II, p.196
22. Government of the Province of Newfoundland.
Table showing means of transport used by 8 manufacturing industries for importing raw materials. —App. II, p.213
23. Government of the Province of Newfoundland.
Number of cod fishermen operating in 1953. (Letter from Department of Fisheries, St. John's, Newfoundland to Newfoundland Associated Fish Exporters Ltd.) —App. II, p.214
24. Government of the Province of Newfoundland.
Statement of shipments of 1953 production salt codfish to and through Canadian ports and New York by Newfoundland Associated Fish Exporters Ltd. —App. II, p.216
25. Government of the Province of Newfoundland.
Montreal Shipping Company Limited Charter Party. —App. II, p.217
26. Government of the Province of Newfoundland.
Canadian National Railways Charter Party. —App. II, p.224
27. Government of the Province of Newfoundland.
A. Willard Ivers Inc., Charter Party. —App. II, p.228
28. Government of the Province of Newfoundland.
Americanized Welsh Coal Charter Party. —App. II, p.236
29. Newfoundland-Great Lakes Steamships Co.
British Commonwealth Merchant Shipping Agreement (1931) —App. II, p.248
30. Committee on Newfoundland Coastal Shipping.
Supplementary brief,
(1) Opposes extension of Transport Act to coastal trade of Newfoundland.
(2) Stresses Newfoundland's urgent need for a buoy boat.
(3) Claims differences in wages paid by C.N.R. and other Newfoundland vessels not unreasonable considering types of service provided.
(4) Includes schedule comparing wages of crews on C.N.R. operated ships in various tonnage groups with wages of unorganized crews and typical Newfoundland coasting vessels. —App. II, p.263
31. Maritime Marine Workers' Federation (C.C.L.)
Summary of assistance provided for shipbuilding and shipping industries in other maritime nations, (Argentina, Australia, Belgium, Brazil, Chile, Denmark, France, Germany, Greece, India, Italy, Japan, Netherlands, Norway, Panama, Spain, Sweden, U.K., U.S.A.) —App. II, p.281

32. Maritime Marine Workers' Federation (C.C.L.)
 - (a) Letter from Rt. Hon. C. D. Howe (possibility that U.S.S.R. might place orders with Canadian shipyards for vessels, other than strategic, if price competitive).
 - (b) Letter from J. C. MacKinnon to East West Export Import Co. Ltd., Vancouver. (Application for export permit of one general cargo motor ship to U.S.S.R. refused.)
—App. II, p.321
33. Newfoundland Canada Steamships Limited.
Submission entered at Halifax Hearings.
—App. II, p.324
34. Lunenburg Foundry & Engineering Ltd.
Brief submitted at Halifax Hearings.
—App. II, p.329
35. Markland Shipping Company Limited.
Submission filed at Halifax Hearings—(recommends no change in coastal trading regulations that might increase costs, strict enforcement of Section 54 of the Customs Act, and suggests that freight earned on Canadian cargoes by foreign vessels be taxable).
—App. II, p.337
36. Government of the Province of Prince Edward Island.
Maxwell Harris Company Inc., Charter Party.
—App. II, p.343
37. Government of the Province of Prince Edward Island.
Telegram addressed to Rand H. Matheson from Maxwell Harris Company Inc. (quotes rate for potatoes shipped from Maine to Florida).
—App. II, p.346
38. Government of the Province of Prince Edward Island.
Schedule of rail rates on potatoes from points in P.E.I. and N.B. to points in Quebec and Ontario indicating freight rate increases from April 7, 1948, to July 18, 1955.
—App. II, p.347
39. Government of the Province of Prince Edward Island.
Canadian Freight Association contract on agreed charges (potatoes) effective March 1, 1954, between Algoma Central and Hudson Bay Railway Company, C.N.R., C.P.R., Essex Terminal Railway Co., Wabash Railroad Co., and the P.E.I. Potato Marketing Board.
—App. II, p.349
40. Government of the Province of Prince Edward Island.
Schedule of total exports and imports shipped by rail in Prince Edward Island—1953 and 1954.
—App. II, p.359
41. City of Port Arthur.
Report of Transportation Committee on deep water situation as at Nov. 20, 1954, concerning the Canadian Lakehead (minimum depths on traffic by water as at present time, and as under "St. Lawrence Deep Waterway Plan" and "All Canadian Plan", from Montreal, and eastbound from and westbound to Lakehead; notes with reference to foreign vessels, imports, volume of cargoes and rates).
—App. II, p.362A
42. City of Port Arthur.
Transportation Report on Duluth Trip. (Report of Mr. E. G. Charnock, Chairman of Transportation Committee, member of the Canadian Lakehead delegation, on his visit to the Duluth Chamber of Commerce, April 1955.)
—App. II, p.362B
43. Government of the Province of Manitoba.
Material concerning operational costs of a Canadian laker and U.K. ocean ship between Lakehead and Montreal to be supplied by Dr. E. Solomon.
—See Ex. 187

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44. J. L. McDougall, Queen's University, Kingston, Ont.
Transcript corrections of the testimony given to the Commission on July 14th, 1955, in Ottawa. —App. II, p.362C
45. Topographic Map of British Columbia, 1955, Victoria, B.C.
(Places, airports, airstrips, railroads, roads, pipe lines.) —T.1960
46. General Map of the Pacific Ocean (Southeastern Asia and Australia).
(Shipyards and ship repair facilities as listed by Lloyds Register of Shipping.) —T.1962
47. B.C. Member Shipyards of the Canadian Shipbuilding and Ship Repairing Association, Victoria, B.C.
Ocean-going Merchant Ships under Construction as at June 30, 1955, by Countries. —App. II, p.363
48. B.C. Member Shipyards of the Canadian Shipbuilding and Ship Repairing Association, Victoria, B.C.
Ships in service in Coasting Trade of B.C. since 1900 by Three Major Coastwise Steamship Lines (C.P.R., C.N. Steamships, Union Steamships, Limited.) —App. II, p.365
49. B.C. Member Shipyards of the Canadian Shipbuilding and Ship Repairing Association, Victoria, B.C.
Table of Wage Rates in the Canadian Shipyards, 1955. —App. II, p.371
50. B.C. Member Shipyards of the Canadian Shipbuilding and Ship Repairing Association, Victoria, B.C.
Wage Rates in Construction and Basic Industries of B.C. —App. II, p.373
51. Nicholson, George, Victoria, B.C.
Photographs of SS. "Princess Maquinna", "Princess Norah" and "Princess of Alberni". —App. II, p.374A
52. Nicholson, George, Victoria, B.C.
Five letters (a,b,c,d,e) supporting the submission made by Mr. G. Nicholson. (Letters are from Ucluelet and Port Albion Chamber of Commerce, Tofino Chamber of Commerce, Zeballos Board of Trade, Mr. Ivan H. Clarke, Hot Springs Cove, B.C. and from Mr. W. C. Youell.) —App. II, p.375
53. Swainson, Neil A., Victoria, B.C.
Brief submitted at Victoria Hearings. —App. II, p.386
54. MacMillan & Bloedel Limited, Vancouver, B.C.
Annual Report for Year Ended Sept. 30, 1954. —App. II, p.393A
55. B.C. Lumber Manufacturers Association, Vancouver, B.C.
Annual Report, 1954. —App. II, p.393B
56. Manson's Landing Community Activities Committee, Vancouver, B.C.
Extracts from "The Campbell River Courier", August 3, 1955. —App. II, p.393C
57. Union Steamships Limited, Vancouver, B.C.
Supplementary Brief submitted at Vancouver Hearings. (Corrections to statements in other briefs, comments on other brief, request to amend the Trade Union Act in connection with the strike, excerpts from the B.C. Labour Relations Act.) —App. II, p.394
58. National Association of Marine Engineers of Canada, Vancouver, B.C.
Extract from "The Log", June, 1955. —App. II, p.408A
59. B.C. Towboat Owners' Association, Vancouver, B.C.
List of Members of the Association. —App. II, p.409
60. B.C. Towboat Owners' Association, Vancouver, B.C.
Schedule of Rates, Jan. 1946. —App. II, p.411A

61. B.C. Towboat Owners' Association, Vancouver, B.C.
Schedule of Rates, 1951. —App. II, p.411B
62. Straits Towing Limited, Vancouver, B.C.
Brief submitted at Vancouver Hearings. —App. II, p.412
63. Labour-Progressive Party, B.C. Provincial Committee, Vancouver, B.C.
Brief submitted at Vancouver Hearings. —App. II, p.418
64. Alberta Federation of Agriculture, Edmonton, Alta.
Brief submitted at Regina Hearings. —App. II, p.426
65. Government of the Province of Saskatchewan.
Submission of the Province of Saskatchewan to the Royal Commission on
Transportation, Sept. 10, 1949. —T.2509
66. Saskatchewan Farmers Union, Regina.
Brief submitted at Regina Hearings. —App. II, p.438
67. Saskatchewan Wheat Pool, Regina.
Brief submitted at Regina Hearings. —App. II, p.451
68. Winnipeg Chamber of Commerce, Winnipeg.
Brief submitted at Winnipeg Hearings. —App. II, p.461
69. Hudson Bay Route Association, Winnipeg.
Letter addressed to the Royal Commission. —App. II, p.479
70. Manitoba Federation of Agriculture and Co-operation, Winnipeg.
Brief submitted at Winnipeg Hearings. —App. II, p.482
71. Chamber of Commerce of the City of Quebec.
Supplementary brief submitted at Hearings in Quebec City. (Description of ship-
building and shipping situation at Port of Quebec including: tariff structure,
labour, high top wharfage charges, port rights, recommend institution in special
zone in Quebec Port of lower rates similar to Lachine Canal rates for ships 600
tons and under, port facilities, shipyards, navigation season.) —App. II, p.488A
72. Geo. T. Davie & Sons Ltd.
List of men employed in shipyard at Lauzon, Quebec—March 31, 1955, (broken
down by trades). —App. III, p.489
73. Davie Shipbuilding Ltd.
Letter from American Bureau of Shipping—August 18, 1955. (Indicates possi-
bility that giant upper lakers could be built in Europe and brought to Canada.)
—App. III, p.491
74. Davie Shipbuilding Ltd.
Letter from Lloyd's Register of Shipping—September 6, 1955. (Indicates possi-
bility that giant upper lakers could be built in Britain and brought to Canada.)
—App. III, p.495
75. Corporation of the City of Three Rivers.
Statistics on Port of Three Rivers.
Table I —Fixed assets, revenues, expenditures, interest on loans, deficit and
surplus accumulated 1936-1953.
Table II —Amounts invested yearly in Port of Three Rivers and four other
Canadian ports 1936-1953.
Table III —Number of incoming and outgoing ocean and coastal ships and cargo
tonnages 1936-1953.
Table IV—Comparative statement of fixed assets, surplus and reserves 1925-
1954. —App. III, p.497
76. City of Cap de la Madeleine.
Memorandum presented to National Harbours Board—May 30, 1955 (outlining
inadequacy of port and dock facilities and land approaches). —App. III, p.503

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77. City of Cap de la Madeleine.
Nine photographs showing various aspects of wharf area. —App. III, p.509A
78. Canadian Industrial Preparedness Association.
List of member companies and personal members as of October 4, 1955.
—App. III, p.510
79. Canadian Industrial Preparedness Association.
List of officers and directors (including aims and objects of Association).
—App. III, p.518
80. Clarke Steamship Company Limited.
Statement showing rate changes from 1949 to 1955 using Lake Freight Association rates from Windsor and Toronto to St. John's; Clarke Steamship rates from Montreal to St. John's; rail and water rates from Windsor, London, Toronto to St. John's.
—App. III, p.527
81. Clarke Steamship Company Limited.
Graph indicating fluctuations in freight rates 1949-54, (prepared from Exhibit 80).
—App. III, p.529
82. Clarke Steamship Company Limited.
Graph indicating fluctuations in ocean charter rates 1949-54. —App. III, p.530
83. Clarke Steamship Company Limited.
Statement showing retail prices in St. John's, Newfoundland, on September 20, 1955, in relation to freight rates—Montreal to St. John's. —App. III, p.531
84. Clarke Steamship Company Limited.
Statement of cargo carried by Clarke Steamship Company Limited and associated companies during 1954 in net weight tons, (including breakdown by destination of cargo to Newfoundland).
—App. III, p.534
85. Clarke Steamship Company Limited.
Statement comparing breakdown of application of freight dollar on Montreal to St. John's, Newfoundland, service during 1954, for
(1) Canadian ship "SS. Novaport" and similar U.K. ship "SS. Sheldrake",
(2) for new U.K. built diesel-type vessels with 45% larger cubic capacity.
—App. III, p.535
86. Clarke Steamship Company Limited.
Statement of breakdown of application of freight dollar on Montreal to St. John's, Newfoundland, service for U.K. ship at distressed rates. —App. III, p.537
87. Canadian Pulp and Paper Association.
(1) "Reference Tables"—March 1955, containing detailed statistical material on Canadian pulp and paper industry;
(2) "Quick Facts"—basic statistics on pulp and paper industry.
—App. III, p.537A&B
88. Canadian Pulp and Paper Association.
(1) "The Pulpwood Harvest"—describes woods operation of pulp and paper industry;
(2) "From Watershed to Watermark"—describes mill operation of pulp and paper industry.
—App. III, p.537C&D
89. Dominion Marine Association.
Letter from Messrs. Malleison Stewart & Co., Melbourne, Australia, to attention Mr. F. O. Gerity, September 27, 1955, (concerning Australian legislation governing coastal trade—see Exhibit 12).
—App. III, p.538
90. Dominion Marine Association.
Copy of Dominion Coal Board Act—1947. —App. III, p.541A

91. Dominion Marine Association.
Copy of Canada Gazette—April 13, 1955, containing P.C. 1955-367—March 18, 1955, (under which coal subventions are paid to Dominion Coal and Steel Company on movement of coal mined in Nova Scotia). —App. III, p.541B
92. Dominion Marine Association.
Copy of Canada Gazette—May 26, 1954, containing P.C. 1954-685—May 6, 1954, (under which coal subventions are paid to Dominion Coal and Steel Company on movement of coal mined in Nova Scotia). —App. III, p.541C
93. Dominion Marine Association.
Schedule of daily operating costs, based on figures for 1951 to 1954 seasons provided by Association members, for 2 different type vessels. —App. III, p.542
94. Shipping Federation of Canada, Inc.
List of members as at December 31, 1954. —App. III, p.545
95. Canada Steamship Lines, Limited.
Supplementary submission presented by Mr. T. R. McLagan, at Montreal Hearings—October 12, 1955—and mostly read into transcript (see T.3790-3835). (Schedule comparing operating costs of Canadian ship of Hochelaga-Thunder Bay class and possible U.K. ship of comparable size.—pp. 2-4.) —App. III, p.548A
96. Canada Steamship Lines, Limited.
Financial Post statement, complete story on Company's various interests and subsidiary companies to September 14, 1955. —App. III, p.548B
97. Canada Steamship Lines, Limited.
Statement "Nature of the Relationship Between Canada's Purchases From the United Kingdom and Canada's Sales to the United Kingdom" from International Monetary Fund Yearbook—May 1955. —App. III, p.549
98. Canada Steamship Lines, Limited.
Statement "Trading and Financial Relationship of the United Kingdom with Canada—1950-1954" from D.B.S. Canadian Balance of International Payments, 1954. —App. III, p.559
99. Canada Steamship Lines, Limited.
"Montreal Harbour and the St. Lawrence Seaway"—report made to Manager of Port of Montreal and endorsed by seven inland shipping companies and Shipping Federation of Canada. (Explains that to achieve proposed 4½ to 5 cent reduction in cost of transporting grain from Lakehead to Montreal, on completion of seaway, will mean:
(a) only large Upper Lakers can be used
(b) present transshipment points will be by-passed
(c) tolls must not nullify such reduction
(d) storage and handling facilities at St. Lawrence Ports (Montreal) must be increased to prevent costly delays for lake boats.) —App. III, p.561
(Statement showing incoming and outgoing shipments of grain by rail or water through Vancouver, Churchill, and Montreal or St. Lawrence Ports, by crop year from 1949-53). —App. III, p.561
100. Canada Steamship Lines, Limited.
Map of Great Lakes System showing "Transfer Points". —T.3807
101. Canada Steamship Lines, Limited.
Statement of grain shipments received by rail and water at Montreal and other St. Lawrence elevators by crop year from 1949-53. —App. III, p.582
102. Canada Steamship Lines, Limited.
A. Map of Welland Canal (first section).
B. Map of Welland Canal (second section). —T.3814

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103. Canada Steamship Lines, Limited.
Statement showing time lost by company vessels waiting to enter Welland Canal during 1955 season—April to August 31, 1955. —App. III, p.584
104. Canada Steamship Lines, Limited.
Statement showing average time taken to complete passage (upbound and downbound) by lakers and by canallers over period 1935 to 1953. —App. III, p.585
105. Canada Steamship Lines, Limited.
Graph showing average time taken to complete passage of Welland Canal by lakers, downbound. —App. III, p.588A
106. Canada Steamship Lines, Limited.
Graph showing average time taken to complete passage of Welland Canal by lakers, upbound. —App. III, p.588B
107. Canada Steamship Lines, Limited.
Graph showing average time taken to complete passage of Welland Canal by canallers, downbound. —App. III, p.588C
108. Canada Steamship Lines, Limited.
Graph showing average time taken to complete passage of Welland Canal by canallers, upbound. —App. III, p.588D
109. Canada Steamship Lines, Limited.
Statement showing annual movement of traffic through Welland Canal (total passages and cargo for each year during period 1932-1954). —App. III, p.589
110. Canada Steamship Lines, Limited.
Copy of Aeronautics Act—Air Regulations—November 23, 1954.—App. III, p.590
111. Canada Steamship Lines, Limited.
Technical paper "Modern Ore Carriers" presented by Mr. J. J. Henry to Society of Naval Architects and Marine Engineers in New York, 1955. —App. III, p.593A
112. Canada Steamship Lines, Limited.
Sketch of typical midship section of Great Lakes ore carrier. —App. III, p.594
113. Canada Steamship Lines, Limited.
Sketch of typical midship section of Great Lakes ore/grain carrier. —App. III, p.595
114. Canada Steamship Lines, Limited.
Sketch of typical midship section of ocean-going Great Lakes ore/oil carrier. —App. III, p.596
115. Canada Steamship Lines, Limited.
Graph indicating on a base of "year of build" the deadweight carrying capacity and age of existing Great Lakes fleet. —App. III, p.597
116. General Council of British Shipping.
Communication August 22, 1955, containing replies to questions submitted by Royal Commission on Coasting Trade.
Number, tonnage, routes and cargo of U.K. ships engaged in Canadian coasting trade.
U.K. shipping for Canadian account contributes \$40 million per year towards U.K. balance of payments.
U.K. shipping spent \$28 million in Canada for fuel, repairs, provisions, etc. in 1952.
Completion of Seaway will not mean increased operations of U.K. ocean-going tramps in coastal trade because of limited draught in Seaway.
Fact that U.K. ships (liners and tramps) operating regularly in Canadian coastal trade until end of navigation season are profitably employed elsewhere (Mediterranean) in winter enable them to provide competitive rates during open season.

Appendix I—table showing wage rates on U.K. vessels engaged in Canadian trade (including bonus).

Appendix II—table showing number and tonnage of U.K. and foreign vessels trading U.K. coast in 1954.

Appendix III—resolution against "Flag Discrimination" adopted by International Chamber of Commerce, Tokyo—May 1955.

Specialized ships (Great Lakers) could be built economically in U.K. with temporary structural modifications and moved across Atlantic.

NATO would allocate tonnage to meet Canada's national needs in time of emergency if foreign shipping withdrawn. —App. III, p.598

117. Canadian Pacific Railway.

Map of Western Canada showing breaking point for grain rates between Fort William and Vancouver. —App. III, p.629A

118. Canadian Pacific Railway.

Statement showing rates on grain from representative points in Western Canada to Fort William and to Vancouver for export. —App. III, p.630

119. Canadian Pacific Railway.

Statement of import, export and domestic traffic likely to be exposed to increased water competition resulting from building of Seaway and based on traffic handled between April to November 1953. —App. III, p.631

120. Canadian National Railways.

List of ships in Newfoundland and Pacific Coast service, including routes, dimensions, capacity and type of service. —App. III, p.635

121. Canadian National Railways.

Timetable No. 85 for coastal services in Atlantic waters, particularly Newfoundland (Page 90—Summer Season Services). —App. III, p.642A

122. Canadian National Railways.

Timetable No. 86 for coastal services to and around Newfoundland (Page 90—Winter Season Services). —App. III, p.642B

123. Canadian National Railways.

Timetable for services in Pacific coastal waters (Page 69—Winter Season Services, September 25, 1955, to April 28, 1956). —App. III, p.642C

124. Canadian National Railways.

Timetable for services in Pacific coastal waters (Page 69—Summer Season Services, April 24 to September 24, 1955). —App. III, p.642D

125. Canadian National Railways.

Statement showing tonnage and revenue on traffic that will be exposed to increased water competition on completion of Seaway and based on traffic handled during 1953. —App. III, p.643

126. Canadian National Railways.

Statement showing total bushels of bulk grain shipped by C.N.R. per month to export elevators at British Columbia ports, and Port Churchill, Manitoba, during 1953, 1954, and first 8 months 1955. —App. III, p.646

127. Canadian National Railways.

Statement showing total bushels bulk grain handled by C.N.R. per month from Canadian Lake, Bay and River ports to Eastern ports for export during 1953, 1954, and first 8 months 1955. (Breakdown showing type and quantity of grain exported through Eastern ports in 1953.) —App. III, p.648

128. Canadian National Railways.

Statement showing total bushels bulk grain shipped all-rail C.N.R. per month

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- from Lakehead to Eastern ports for export during 1953, 1954, and first 8 months 1955. (Breakdown showing type of grain and quantity exported through Eastern ports in 1953.) —App. III, p.651
129. Canadian National Railways.
Statement showing carload rail rates on bulk grain, soya beans and flaxseed shipped from Lakehead, Bay, Lake and River ports and Buffalo, N.Y., to Eastern Canadian and U.S. ports for export. —App. III, p.654
130. Canadian National Railways.
Statement showing comparison of First, Fifth and Tenth Class Rates from illustrative origins in Ontario and Quebec to specified destinations in Newfoundland and in effect prior to Confederation on March 31, 1949, with rates effective April 1, 1949, and October 1, 1955. —App. III, p.657
131. Canadian National Railways.
C.N.R. Tariff No. CM. 195, C.T.C. No. E. 2115. —App. IV, p.663A
132. Canadian National Railways.
C.N.R. Tariff No. CM. 300-15, C.T.C. No. E.4014. —App. IV, p.663B
133. Canadian National Railways.
C.N.R. Tariff No. CM. 267-18. —App. IV, p.663C
134. Canadian National Railways.
C.N.R. Tariff No. C.89—(Supplement 79—page 29), C.T.C. No. E.3967. —App. IV, p.663D
135. Canadian National Railways.
Statement showing comparison of freight rates on representative commodities actually transported from various points in Canada to Newfoundland prior to March 31, 1949, and freight rates in effect on March 31, 1949, April 1, 1949 and October 1, 1955. —App. IV, p.664
136. Canadian National Railways.
Additional statement omitted from Exhibit No. 135 showing comparison of freight rates on flour from Port Arthur and Port Colborne to Newfoundland in effect March 31, 1949, April 1, 1949, and October 1, 1955. —App. IV, p.672
137. Canadian Pacific Railway.
Statement showing movement of bulk grain from Fort William, Bay ports, and local Ontario points to St. Lawrence River ports, Canadian Atlantic ports and Northern U.S. Atlantic ports. —App. IV, p.674
138. Canadian Vickers Limited.
Financial Post statement giving complete story on activities and statistics of company, (additional statement giving particulars of Vickers' engineering services). —App. IV, p.674A
139. Canadian Vickers Limited.
Shares held by Canadian residents and others as of June 30, 1955. —App. IV, p.675
140. Canadian Vickers Limited.
Statement showing number and tonnage of naval and commercial ships built per year between 1911 and 1954, and number under construction as of October 12, 1955.
Summary of naval vessels built since 1911 for Canadian, British, Italian and U.S. Navy. —App. IV, p.676
141. Canadian Vickers Limited.
Statement of October 12, 1955, showing turnover in technical staff during previous six months and previous six weeks indicating tapering off of naval programme. —App. IV, p.679

142. Canadian Vickers Limited.
Statement showing average employment over past 10 years for hourly rated productive employees up to September 22, 1955. —App. IV, p.680
143. Canadian Vickers Limited.
Statement showing number of employees working and weekly payroll on week ending September 22, 1955. —App. IV, p.681
144. Canadian Vickers Limited.
Statement showing peak employment for productive employees during past 15 years for year ended February 28, 1945. —App. IV, p.682
145. Canadian Vickers Limited.
Extract from Minutes of House of Commons Standing Committee on Railways, Canals and Telegraph Lines—June 20, 1950—covering discussion on reasons for including Section 21 (a) in the Canada Shipping Act (now Section 22). (Confering discretionary powers on Minister of Transport to prevent importation of ships which are not built in Canada.) —App. IV, p.683
146. Branch Lines Limited.
Branch Lines Limited Tanker Time Charter Party. —App. IV, p.690
147. Branch Lines Limited.
Map of Newfoundland showing harbours from which company transports pulpwood to Corner Brook. —T.4285
148. Branch Lines Limited.
Statement listing Newfoundland and Nova Scotian harbours, their respective distances from Corner Brook, and amount of pulpwood moved from each harbour to Bowater's Pulp and Paper Mills at Corner Brook during period 1949 to 1954 and rate per cord. —App. IV, p.713
149. Branch Lines Limited.
Photograph of large pulpwood barge pulled by tug at Lomond, Newfoundland. —App. IV, p.715
150. Marine Industries Limited.
 - A. Graph showing employment during period 1937 to 1955.
 - B. Graphs showing distribution of workers by occupation during building period of one vessel.
 - C. Graph showing savings available to Canadian shipowners (based on construction of 15 trawlers for France).
 - D. Graph showing savings available to Canadian shipowners (based on construction of 6—2600 ton vessels for France).
 - E. Graph showing savings available to Canadian shipowners (based on construction of 10—10,000 ton cargo vessels for Canadian Government.)
List of ships showing type, name, gross tonnage, and date built during period 1926 to 1955. —App. IV, p.736
151. Midland Shipyards Limited and Town of Midland, Ontario.
Statement showing distribution of salaries and wages paid for ship construction, ship repairs and miscellaneous during period 1951-1954. —App. IV, p.755
152. Collingwood Shipyards Limited and Town of Collingwood, Ontario.
Statement showing distribution of salaries and wages paid for ship construction, ship repairs, and miscellaneous during period 1950-1954. —App. IV, p.756
153. Port Weller Dry Docks Limited.
History of Muir Bros. Dry Dock at Port Dalhousie from 1849 to 1954 when it was taken over by Port Weller Dry Docks Limited.
History and description of Welland Canal from 1824 to present day.

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- Description of operations of Port Weller Dry Docks Limited and list of large lakers built during last four years. —App. IV, p.757
154. Hamilton Chamber of Commerce.
Brochure on Port of Hamilton (copy of brief, description of port facilities and list of shipping lines using Port of Hamilton, copy of Hamilton District Industrial Index, comparative statement of commodity tonnages incoming and outgoing during 1953-1954, Hamilton Harbour Commission booklet—1951—covering history of port). —App. IV, p.766
155. Toronto Harbour Commissioners.
Brief submitted at Toronto Hearings. Outlines pertinent facts concerning harbour and area served by Port of Toronto.
44% of total Canadian purchasing power concentrated in Ontario and 33½% within 100 mile radius of Toronto.
Incoming shipments totalled 3,613,889 tons and outgoing 1,171,048 tons in 1954.
Recent harbour improvements to accommodate present package freight business and increased cargo expected on completion of Seaway.
Seaway will increase waterborne trade from (1) direct overseas shipments (2) transhipment to Great Lakes ports (3) coasting trade with four Atlantic Provinces. —App. V, p.775
156. Toronto Harbour Commissioners.
Annual Report of the Commissioner of Finance (1954) for Municipality of Metropolitan Toronto. —App. V, p.785A
157. Toronto Harbour Commissioners.
Canadian Statistical Review—August 1955 (Table 38—"Value of Building Permits" on Page 44). —App. V, p.785B
158. Toronto Harbour Commissioners.
Letter from Editor, Maclean's Building Guide—October 18, 1955 (including schedule of cumulative construction contract award totals for Metropolitan Toronto, Ontario and Canada covering period from July 1954 to June 1955).—App. V, p.786
159. Toronto Harbour Commissioners.
Annual Report of Toronto Industrial Commission—1954. —App. V, p.787A
160. Toronto Harbour Commissioners.
Business Year Book—1955 published by the Financial Post. —App. V, p.787B
161. Canadian Federation of Agriculture.
Brief submitted at Toronto Hearings. —App. V, p.788
162. Government of the Province of Alberta.
Brief submitted at Toronto Hearings. —App. V, p.837
163. Ontario Shipping Intelligence Publishing Company.
Collection of clippings, maps and photographs. —T.4828
164. Kent Lines Limited, Brunswick Motors Limited and Irving Pulp and Paper Ltd.
Brief submitted at Toronto Hearings. —App. V, p.853
165. Dominion Marine Association.
Answers to questions asked.
I. (1) Notes on the reality of competition faced by Great Lakes vessels upon completion of the Seaway.
(a) Graph 165.1—Freight Charges on Wheat per Ton-Mile, St. Lawrence Ports to the United Kingdom, and Across the Great Lakes, 1950-1955.
(b) A note or explanation of Graph 165.1
(c) A further explanation of daily operating costs arising out of Exhibit 93.

(d) Answer to remark of the Chairman, Vol. 11, p.3719, lines 8-19.

(2) A note on naval architecture as to the type of vessel from which competition is to be expected.

(a) Drawing 165.6, outline arrangement of a combined oil or ore carrier suitable for ocean and/or lake and St. Lawrence waterways trade.

(b) Drawing 165.7, outline arrangement of a combined ore or grain carrier suitable for ocean and/or lake and St. Lawrence waterways trade.

II. The balance of merchandise trade between Canada and the United Kingdom.
Appendix I—Answers to questions arising out of the transcript.

Appendix II—Tables of general steaming times, load, unload and lay times, large and medium vessels. —App. V, p.874

166. Canadian Shipbuilding and Ship Repairing Association.

Statement showing progress of Newfoundland compared with progress achieved elsewhere in Canada during period 1949-1954. —App. V, p.872

167. Canadian Fairbanks-Morse Company Limited.

Letter from Mr. G. R. Wyer, Executive Vice-President, to Royal Commission on Coasting Trade—November 9, 1955—(indicating value of marine engines as percentage of total value of shipments from Canadian Locomotive Company, Kingston, Ontario). —App. V, p.874

168. Canadian Maritime Commission.

Statement showing number of ships and total tonnage in Canadian Merchant Fleet as of September 1, 1955, (including breakdown of Canadian vessels in Ocean-Going Fleet, Coastwise Trading Fleet, Great Lakes Fleet and Canadian vessels on U.K. register under transfer plan). —App. V, p.875A

169. Algoma Steel Corporation Limited.

Letter and photographs from Mr. D. S. Holbrook, Executive Vice-President, to Royal Commission on Coasting Trade—November 4, 1955. (Letter indicates value of direct iron and steel sales to shipbuilding industry and photographs show:

A. Three ships in berth at dock, with coal and ore unloading bridges in background.

B. Actual coal unloading operations.

C. General view of Algoma Works at Sault Ste. Marie and storage piles containing twelve different raw materials from nine different Lake ports.)

—App. V, p.876

170. Union Steamships Limited.

Letter from Mr. J. F. Ellis, General Manager, to Royal Commission on Coasting Trade—November 3, 1955, (including four schedules:

A. List of ships owned by Union Steamships Limited showing tonnage, date and place of construction.

B. Copy of Articles of Agreement with Canadian Maritime Commission.

C. Statement showing daily operating costs of Union Steamships Limited vessels in 1954.

D. Statement of cargo tonnage and number of passengers transported between various areas during 1954.

Comments relative to Brief submitted at Vancouver hearings concerning subsidies, free ports in southeastern Alaska, regulation of freight rates, restriction of coastal trade to vessels owned by Canadian citizens).

—App. V, p.879

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171. Saguenay Terminals Limited.

Letter from Mr. W. Baatz, Treasurer, to Royal Commission on Coasting Trade—October 31, 1955 (explains that Exhibit No. 172 shows difference of \$94,000 a year between operation of Canadian vessel (10,000 tons) and a similar U.K. flag vessel, but actual difference between two such ships operated by Saguenay Terminals Limited would be \$58,000.

Oppose anomaly under Transport Act whereby eligible ship can move cargo from one point to another on either coast without licence, unless engaged on intercoastal voyage.

On completion of Seaway owners of Great Lakes vessels may operate in world trade during winter season).
—App. V, p.913

172. Saguenay Terminals Limited.

Statement showing cost experience in operating 10,000-ton vessels during 12 months prior to and 12 months following transfer from Canadian to U.K. registry.
—App. V, p.920

173. Shipping Federation of Canada.

Letter from Mr. C. T. Mearns, Secretary, to Royal Commission on Coasting Trade—November 7, 1955.

Statement showing names, gross tonnage, port of registry, place of construction for vessels entered in Shipping Federation of Canada and engaged in coasting trade—1955.

Statement showing liner grain freight rates from Eastern Canada to United Kingdom—May 1950 to January 1956.

Statement showing tramp grain freight rates from Eastern Canada to United Kingdom—January to October 1955.

Statement showing cost per ton mile of tramp vessel carrying grain from Montreal to United Kingdom.

Letter from Maritimes Research Inc., New York, to Shipping Federation of Canada—October 14, 1955—indicating difficulty involved in securing reliable figures for grain rates from 1951 to June 1953.

Names and particulars of vessels delayed in 1954 in Montreal Harbour and Sydney, N.S. due to strikes by crew members.
—App. V, p.921

174. Branch Lines Limited.

Letter from Managing Director to Royal Commission on Coasting Trade—October 31, 1955 (describing movement of pulpwood to Cornerbrook, Newfoundland prior to 1949).
—App. V, p.928

175. Owen Sound Chamber of Commerce.

Letter from President to Royal Commission on Coasting Trade, October 26, 1955. (Corrects statement made at Midland Hearings on capacity of grain elevator at Owen Sound. Elevator handles 4 million bushels and an additional 4 million has been stored on ships wintering in harbour.)
—App. V, p.930

176. Clarke Steamship Company Limited.

Statement showing method used to obtain figures presented in Exhibits 85 and 86.
—App. V, p.931

177. Canada Steamship Lines Limited.

Letter from President to Royal Commission on Coasting Trade—August 18, 1955 (correcting statement made at Ottawa Hearings regarding cost of building ships in Canada and U.K.).

Schedule of tariffs for elevation, storage and handling charges effective August 1, 1954, for Kingston Grain Elevator, Cataraqui Bay, Kingston, Ontario.

—App. V, p.936

178. Furness, Withy & Company Limited.
Letter from Messrs. Halley, Hickman and Hunt to Royal Commission on Coasting Trade—October 13, 1955 (correcting errors appearing in transcript of proceedings, Volume 2, Part B). —App. V, p.939
179. British Columbia Loggers' Association.
Letter from Secretary-Manager to Royal Commission on Coasting Trade—September 19, 1955 (supplying information indicating what percentage of total cost of logs is represented by transportation of logs and transportation of supplies and machinery).
List of Association members. —App. V, p.942
180. Canadian Pulp and Paper Association.
Proceedings of the Annual Meeting—1955. —App. V, p.944A
181. Canadian Wheat Board.
Letter from Mr. F. T. Rowan, Manager, to Royal Commission on Coasting Trade—October 25, 1955—enclosing compilations on ocean freight rates, particularly for wheat.
Chamber of Shipping Index Number of Tramp Shipping Rates 1952-1955.
Chamber of Shipping Index Number of Tramp Shipping Rates 1948-1952.
Statement showing rates on grain from St. Lawrence Ports to United Kingdom.
Statement showing fluctuations in ocean grain freight rates Canada to United Kingdom.
Notes on Statistical Supplement to Annual Report on Maritime Transport published by the Organization for European Economic Co-operation, Paris—September 1955 (containing numerous tables relevant to Canadian coasting trade). —App. V, p.945
182. Government of the Province of Nova Scotia.
Letter from Minister of Trade and Industry for Nova Scotia to Royal Commission on Coasting Trade—October 11, 1955 (opposes restrictions of coasting trade to Canadian flag ships and estimates the increase in shipping costs in Nova Scotia if U.K. ships excluded). —App. V, p.962
183. Canada Steamship Lines Ltd.
Letter from Mr. T. R. McLagan, President, to Royal Commission on Coasting Trade—October 20, 1955, including several documents. Statement showing total package freight tonnage and percentage of total tonnage carried during period 1950-1954.
Three Canada Steamship Lines schedules listing 1955 package freight services and timetables.
Booklet on "How Modern Handling Methods Are Used To Provide Faster, Safer Package Freight Service." —App. V, p.967
184. Canadian Shipping and Marine Engineering News.
Letter from Editor to Royal Commission on Coasting Trade—November 1, 1955 (describes freight rate competition between Canadian and U.K. ships and forecasts U.K. competition for Canadian bulk carriers). —App. V, p.971
185. Shipbuilding Conference of the United Kingdom.
Statement describing vessels built in U.K. since 1921 for Canadian and Newfoundland owners and engaged in international trade. —App. V, p.974
186. St. Lawrence Municipal Bureau of Montreal.
Proposal advocating surcharge to equate the costs of U.K. and Canadian shipping in inland St. Lawrence system. —App. V, p.977
187. Government of the Province of Manitoba.
Statement showing relative cost of moving grain from Lakehead to Montreal (a) by present method, (b) direct by upper lake vessels after opening of Seaway and (c) direct by U.K. flag ocean vessel after opening of Seaway.—App. V, p.980

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188. Branch Lines Limited.
Letter to Branch Lines Limited from W. A. Phillips, Anderson & Co. Ltd., London, England—October 28, 1955 (offering, in view of construction of St. Lawrence Seaway, to convert canallers from steam to diesel during winter months at minimum cost and offering to charter such vessels for subsequent off-seasons if profitable trading foreseen). —App. V, p.990
189. Windsor Chamber of Commerce.
A. Letter from Windsor Chamber of Commerce to Royal Commission on Coasting Trade—November 14, 1955. (Commonwealth registered ships operate no regular service in coastal package freight trade from Windsor, but occasionally Newfoundland-Great Lakes Steamships Company loads cargo at Windsor.)
B. Membership Directory—1954 (950 members)—T.4934. —App. V, p.992A
190. Marine Industries Limited.
Statement listing definition of technical terms and typical values for various types of vessels (diagram). —App. V, p.992C
191. Canadian Shipowners Association.
Letter from Mr. W. J. Fisher, General Manager, to Royal Commission on Coasting Trade—December 15, 1955.
Statement showing comparison of average daily operating costs on 10,000 DWT "Park" vessel under Canadian and U.K. registries.
Statement showing pro forma crew lists and union wages on 10,000 DWT "Park" vessel under Canadian and U.K. registries. —T.4936
192. Saint John Dry Dock Co. Ltd.
Letter from Mr. F. G. Wilson, Vice-President, to Royal Commission on Coasting Trade, December 8, 1955.
Statement showing analysis of income of above company and its subsidiaries from shipbuilding, ship repairing and subsidiary industries. —T.4943
193. Saguenay Terminals Limited.
Letter from Mr. W. Baatz, Treasurer, to Royal Commission on Coasting Trade, November 30, 1955 (concerning (1) conditions precedent to obtaining a licence under the Transport Act to operate a water carrier service, (2) discriminatory use by railways of through rail and water tariffs, (3) actual number of sailings during period, 1952-1954).
Copy of application form to obtain a licence to transport passengers and/or goods by water. —T.4946
194. Marine Industries Limited.
Corrected graph replacing Exhibit 150 (c) showing savings available to Canadian shipowners (based on construction of 15 trawlers for France). —App. V, p.992D
195. Kent Lines Limited.
Letter from Teed & Teed, Saint John, N.B. to Royal Commission on Coasting Trade—November 16, 1955.
Statement showing number and registered net tonnage of vessels arriving at and departing from Canadian ports in Canadian coastwise shipping during 1954. —T.4951
196. Kent Lines Limited.
A. Letter from Teed & Teed, Saint John, N.B., to Royal Commission on Coasting Trade—November 18, 1955.
B. Booklets entitled "The Story Of The Chignecto Barrier" and "The Voice Of The Maritimes" (advocating construction of Chignecto Canal).
C. Booklet entitled "The Case For The Chignecto Canal". —App. VI, p.992E

197. Iron Ore Transport Company Limited.
Statement showing characteristics of "SS. Sept Iles" and "SS. Ruth Lake". (Letter Magee, O'Donnell & Byers to Royal Commission on Coasting Trade—December 5, 1955, explaining that contracts were awarded in 1951 but delivery not requested before 1955.)
—T.4953
198. Government of the Province of Manitoba.
Statement showing earnings, net income, dividends and stock prices for Canada Steamship Lines Limited for period 1940-1955.
—T.4957
199. Shipbuilding Conference of the United Kingdom.
Supplementary Submission December 14, 1955. (Correcting inaccurate statements in Brief 36 submitted by Vancouver, New Westminster and District, Metal Trades Council, Victoria and District Metal Trades Council, Shipyard General Workers Federation—regarding assistance provided in recent years to U.K. shipbuilders. British Shipbuilding Industry does not receive direct financial assistance from government, and long term, low interest money was provided during depression period only by British (Shipping) Assistance Act 1935. So-called "bounties" do not exist, and accelerated depreciation is available to all industry.)
—T.4958
200. Canada Steamship Lines, Limited.
Statement (enlarging Exhibit 95) showing difference in operating costs between Canadian built and manned large upper lakers and U.K. built and manned ships of various types of the largest size capable of navigating the Seaway in connection with:
(a) carrying wheat from Fort William to Kingston,
(b) carrying ore from Seven Islands to Hamilton,
201. Canada Steamship Lines, Limited.
Design characteristic details of the seven ships (Types A-G) referred to in Exhibit 200.
—App. VI, p.992G
202. Canada Steamship Lines, Limited.
Descriptive folder giving complete explanation of Exhibit 200.
—App. VI, p.992H
203. Canada Steamship Lines, Limited.
Article from magazine "Fairplay"—October 20, 1955, (outlines Moore-McCormack's ship construction programme and indicates that U.S. Maritime Commission estimates U.S.-built ships cost 65% more than European-built ships).
—App. VI, p.992I
204. Canada Steamship Lines, Limited.
Article from British magazine "The Shipping World"—July 6, 1955 entitled, "The Cost of A Cargo Ship".
—App. VI, p.992J
205. Canada Steamship Lines, Limited.
Statement comparing relative cost of moving grain from Lakehead to Montreal via Seaway as estimated by C.S.L. in Exhibit 200 and as estimated in Government of Manitoba Exhibit 187.
—T.5024-A
—App. VI, p.992K
206. Canadian Vickers Ltd.
Summary of additional cost of building a vessel in Canadian shipyards versus British shipyards. (Presented by Mr. J. A. S. Peck and based on Exhibit 204).
—T.5041 App. VI, p.992L
207. Dingwall Shipping Co. Ltd.
Letter from McMichael, Common, Howard, Ker & Cate to Royal Commission on Coasting Trade—December 29, 1955 (information concerning the organization

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- and activities of Dingwall Shipping Co. Ltd. and their connections with Scandinavian Ore Tankers Inc. and Iron Ore Company of Canada).
208. Government of the Province of New Brunswick. —App. VI, p.993
Letter from the Hon. Hugh John Fleming, Premier of New Brunswick, to Royal Commission on Coasting Trade—December 12, 1955 (opposes any changes in shipping regulations which might increase transportation charges on goods moving between Atlantic region and central Canada). —App. VI, p.996
209. Canadian Pacific Railway.
Letter from Mr. J. A. Wright, Solicitor, to Royal Commission on Coasting Trade—December 20, 1955 (listing corrections to be made in transcript of C.P.R. evidence appearing in Volumes 5 and 12). —App. VI, p.998
210. Chamber of Commerce of the City of Québec.
Letter from Mr. Yves Poisson, Secretary-Treasurer, to Royal Commission on Coasting Trade—December 23, 1955 (listing corrections to be made in transcript of French testimony of Mr. M. Turcotte at Québec City Hearings). —App. VI, p.1002
211. Chamber of Commerce of the City of Québec.
Letter from Mr. Yves Poisson, Secretary-Treasurer, to Royal Commission on Coasting Trade—December 15, 1955 (listing corrections to be made in transcript of French testimony of Mr. Yves Poisson at Québec City Hearings). —App. VI, p.1009
212. Shipping Federation of Canada.
Letter from Mr. C. T. Mearns, Secretary, to Royal Commission on Coasting Trade—December 30, 1955 (listing corrections to be made in transcript of testimony of Mr. J. P. Boyle at Montreal Hearings). —App. VI, p.1016
213. General Council of British Shipping.
Letter from Mr. H. E. Gorick, Joint Secretary, to Royal Commission on Coasting Trade—December 23, 1955, in reply to questions submitted by Economic Advisor to Royal Commission. (Expresses doubt that U.K. shipowners will invest in large laker-type vessels on completion of Seaway, and suggests that although U.K. ocean-going ships would not be able to compete with large lakers, they might provide valuable service in ore and grain trade through Seaway.) —App. VI, p.1025
214. Shipbuilding Conference of the United Kingdom.
Letter from Mr. S. G. Dixon to Royal Commission on Coasting Trade—December 27, 1955 in reply to questions submitted by Royal Commission.
(Possibility of building specially-designed bulk carriers for use on Seaway discussed but no precise designs developed. Adaptation of ocean-going ships for use on Seaway restricted by limited draft in seaway channels. Present day cost for building ship similar to "Scott Misener" in U.K. estimated at from £1,420,000 to £1,530,000.) —App. VI, p. 1030
215. Canadian Shipbuilding and Ship Repairing Association.
Copy of brief presented by Government of Newfoundland to Royal Commission on Canada's Economic Prospects. —T.5062
216. Canadian Shipbuilding and Ship Repairing Association.
Statistics on waterborne trade of Newfoundland.
Tables I and III Cargoes loaded and unloaded at Nfld. ports in coasting and foreign service 1950-54.
Table II Seaborne trade of Nfld. as a percentage of Canadian seaborne trade—1954.
Tables IV and V Cargoes loaded and unloaded in Nfld. ports in coasting and foreign service by commodities—1954. —App. VI, p.1034

217. Canadian Shipbuilding and Ship Repairing Association.
Statistics on domestic waterborne commerce of the United States 1924-53.
—App. VI, p.1041
218. Canadian Shipbuilding and Ship Repairing Association.
List of new construction on order (commercial and naval) in Canadian shipyards as of December 1, 1955.
—App. VI, p.1042
219. Canadian Shipbuilding and Ship Repairing Association.
Circular letter from Atlantic Shipbuilding Company, Wales, received by Canada Steamship Lines, Ltd., December 12, 1955 (soliciting business and quoting delivery dates for various types of ships).
—App. VI, p.1047
220. Canadian Shipbuilding and Ship Repairing Association.
Department of Transport Press Release No. 462, November 12, 1953 (announced modifications in the use of escrow funds).
—App. VI, p.1048
221. Canadian Shipowners Association.
Statement showing decline in size of Merchant Marine of Great Britain and Northern Ireland relative to world shipping. (See also Exhibit 230.)
—App. VI, p.1050
222. Canada Steamship Lines, Limited.
Additional data to be included in Exhibits 200, 201 and 202 showing operating costs of vessel "T. R. McLagan" for moving wheat from Lakehead to Kingston.
—App. VI, p.1052
223. Canada Steamship Lines, Limited.
Graph showing clearance of grain out of Lakehead by water during 1955 navigation season.
—App. VI, p.1053A
224. Canada Steamship Lines, Limited.
Statement showing tramp ship sizes and capacities supplementary to Mr. Lowery's comments on Government of Manitoba Exhibit 187 (including excerpts from an article "Modern Standard Tramp Ship" from December 1955 issue of "The Motor Ship").
—T.5200
—App. VI, p.1053B
225. Canada Steamship Lines, Limited.
Lloyd's Register Shipbuilding Returns for Quarter Ended 30th, June, 1955.
—App. VI, p.1053C
226. Canada Steamship Lines, Limited.
Lloyd's Register Annual Summary of Merchant Ships Launched In The World During Year 1954.
—App. VI, p.1053D
227. Canadian Federation of Agriculture.
Statement showing lake freight rates on grain moving from Fort William to Montreal during period 1947-1955. (See also Exhibit 234.)
—App. VI, p.1054
228. Canadian Federation of Agriculture.
Graph showing monthly totals of shipping losses, British, Allied and Neutral by enemy action, and total number of U-boats and operated U-boats between 1939-1945.
—App. VI, p.1054A
229. Canadian Federation of Agriculture.
Clipping from "Montreal Gazette"—January 4, 1956—entitled "'Seamew' Aircraft Unveiled in U.K."
—App. VI, p. 1055
230. Canadian Shipowners Association.
Comparison of Merchant Fleet of Great Britain and Northern Ireland with World's Fleet during period 1905-1955.
—App. VI, p.1056
231. Union Steamships Limited, Vancouver, B.C.
Letter from Mr. J. F. Ellis, General Manager, to Royal Commission on

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Coasting Trade—January 3, 1956, listing corrections to be made in transcript of testimony of Mr. J. F. Ellis at Vancouver Hearings.

(Suggests that the people of Alaska favour freedom of action in water transportation between points in Washington State, B.C., and Alaska.)

—App. VI, p.1058

232. Aluminum Company of Canada, Limited.

Letter from Mr. L. P. Leduc, Secretary, to Royal Commission on Coasting Trade, January 3, 1956, listing corrections to be made in transcript of Mr. R. B. Graham's evidence at Montreal Hearings.

Supplementary information submitted in answer to questions asked at Montreal Hearings.

(Statement showing operating materials moved from Port Alfred to Kitimat via coasting trade during period 1953-1955. Cost of shipping 1 ton of alumina from Arvida to Kitimat via rail and water in 1955.

Delivered prices for aluminum ingot delivered in Canada, U.S.A., and U.K. as of December 1955.

List of tariffs affecting aluminum products.

Cost per ton mile of shipping aluminum ingot from Arvida to various international destinations compared with cost of shipments to Kingston and Chicago).

—App. VI, p.1066

233. Canadian Shipbuilding and Ship Repairing Association.

Statement showing volume of U.S.A. waterborne commerce, including coasting trade between mainland and U.S.A. overseas territories, during period 1947-1953.

—App. VI, p.1074

234. Canadian Federation of Agriculture.

Statement (amending Exhibit 227) showing lake freight rates on grain moving from Fort William to Montreal during period 1947-1955.

—App. VI, p. 1076

235. Canadian Shipbuilding and Ship Repairing Association.

Statement showing bulk cargoes as a percentage of total cargoes carried in U.S.A. domestic waterborne commerce for selected years 1938 through 1952.

—App. VI, p.1077

236. Committee on Newfoundland Coastal Shipping.

Supplementary brief presented at Ottawa Hearings—January 1956 (emphasizing need for improved docking facilities in Newfoundland).

—App. VI, p.1080

237. Committee on Newfoundland Coastal Shipping.

Memorandum of Agreement between The 'Longshoremen's Protective Union and The Newfoundland Employers' Association, Ltd.—1954.

—T.5976

Statement showing Newfoundland Employers' Association, Ltd. Longshore Rates of Wages—effective May 1, 1955.

—App. VI, p.1099

238. Committee on Newfoundland Coastal Shipping.

C.N.R. Timetable 85 for Atlantic Region and Newfoundland District—June 12, 1955.

—T.5977

239. Committee on Newfoundland Coastal Shipping.

Regulations governing marine slip at Selkirk, Manitoba.

—App. VI, p.1101B

240. Canadian National Railways.

Letter from Mr. L. Coté, Assistant General Solicitor, March 12, 1956, in reply to letter from Mr. H. R. Kemp, Royal Commission on Coasting Trade (concerning construction cost of Canadian-built SS. "Prince George").

—App. VI, p. 1102

241. Canadian Pacific Railway.

Letter from Mr. J. A. Wright, Solicitor, March 27, 1956, in reply to letter from Mr. H. R. Kemp, Royal Commission on Coasting Trade, (concerning construction cost of U.K.-built SS. "Princess Marguerite").

—App. VI, p.1105

242. Union Steamships Limited.
Letter from Mr. J. F. Ellis, General Manager, to Royal Commission on Coasting Trade—February 29, 1956, enclosing circular letter of February 27, 1956, sent to B.C. Members of Parliament and Senators with regard to Bill No. 107, introduced in House of Commons—February 15, 1956, to amend the Transport Act.
(Outlines change in recommendations as submitted at Vancouver Hearings and:
(1) opposes any extension of licensing under Transport Act to B.C. coasting trade as impracticable.
(2) if licensing regulations instituted they should apply to all types of vessels engaged in water or air transport.
(3) if regulation of fare or freight rates instituted it should apply to all passenger and cargo traffic by water or air transport, and through rates covering in part water movement should be abolished or prohibited.) —App. VI, p.1108
243. General Council of British Shipping.
Letter from Mr. H. E. Gorick, Joint Secretary, to Royal Commission on Coasting Trade—February 29, 1956, commenting on tables of construction and operational costs of U.K.-built and Canadian-built ships submitted in Exhibit 200 by Canada Steamship Lines, Limited.
(Suggests that length of vessels "E", "F" and "G" in relation to beam and depth would be unsuitable for ocean-going service. Believes gap between operating costs of Canadian laker and U.K. laker trading solely within Seaway would be small. Suggests that construction cost figure for type "B" vessel should be about \$4,200,000, or 37% greater than figure quoted.
Inappropriate to compare vessels "C" to "F", having lake draft of 25'6", with vessel "A", having draft of 23'9".) —App. VI, p. 1119
244. British Columbia Lumber Manufacturers Association.
Letter from Messrs. Herridge, Tolmie, Gray, Coyne & Blair to Royal Commission on Coasting Trade—February 1, 1956, supplying information requested at Vancouver Hearings. (Annual Report 1954—lists Association members. Statement showing number of member companies owning tugs, number of tugs and origin, and proportion of total involved in B.C. coastal towing.
Statement showing shipments by rail and water in Canada in 1954. Tables I and II in Annual Report show shipments to principal markets since 1945.
Statement showing average estimated lumber value including loading and freight within B.C.) —App. VI, p. 1123
245. Royal Netherlands Shipowners Association.
Letter from President to Royal Commission on Coasting Trade—January 24, 1956, clarifying certain references made in Brief 101, submitted by the Canadian and Catholic Confederation of Labour and National Metal Trades Federation, in regard to assistance provided by Netherlands Government to shipping industry. —App. VI, p. 1126
246. Canadian Shipbuilding and Ship Repairing Association.
Letter from Mr. T. R. McLagan, President, to Royal Commission on Coasting Trade, February 8, 1956, stating stand in respect to non-Canadian built ships engaged in Canadian coasting trade at such time as trade is restricted to Canadian-built and registered ships.
(Suggests that U.K. ships on liner berth service, regularly employed in Canadian coasting trade for at least five years prior to restriction, would be permitted, if remaining under present owners, to continue under U.K. registry in present service for remainder of natural life, and only be replaced by vessels built and registered in Canada.
Opposes permitting U.K. ships, chartered by Canadian companies to continue

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in coasting trade, but suggests special arrangements might be necessary for a limited time to avoid hardship or disorganization in essential services.)

—App. VI, p.1132

247. Canada Steamship Lines, Limited.

Letter from Mr. R. Lowery, March 29, 1956, in reply to letter from Mr. G. G. McLeod, Royal Commission on Coasting Trade, regarding the ability of CSL vessels to trade to Seven Islands.

(List of existing upper lake bulk vessels and freighters capable of trading to Seven Islands on completion of Seaway.

Such ships, if engaged exclusively in Seven Islands ore trade, could move 7 million tons of ore to Hamilton and Lake Erie ports in one season.

CSL has no intention of using small canallers on Seven Islands run.

“T. R. McLagan” is certified to operate as far east as Havre St-Pierre, but smaller upper lake-type vessels would probably be more suitable for operations off west coast of Newfoundland.

Dual purpose vessel has advantage of flexibility, but not as efficient in any particular trade as specialized vessel.)

—App. VI, p. 1135

248. Canadian Shipowners Association.

Letters from Mr. W. J. Fisher, General Manager, February 14, 1956, and March 6, 1956, in reply to request from Mr. G. G. McLeod, Royal Commission on Coasting Trade, for estimate of operating costs of vessels engaged in Great Lakes and St. Lawrence River trade. Statement showing operating costs of various types of vessels moving grain from Fort William to Kingston, and ore from Seven Islands to Montreal and Ashtabula.

—App. VI, p.1141

249. Commonwealth of Australia.

Tariff Board's Report on Shipbuilding Industry, June 16, 1955.

—App. VI, p.1187A

250. Canadian Pacific Railway.

Letter from Mr. J. A. Wright, Solicitor, to Royal Commission on Coasting Trade—April 18, 1956 (concerning construction cost and cost of transporting U.K.-built SS. “Princess Marguerite” to Victoria).

—App. VI, p.1188

251. Canadian Shipowners Association.

Reconciliation of data supplied in Exhibits 191 and 248 on operating costs of vessels engaged in Great Lakes-St. Lawrence trade.

—App. VI, p.1189

252. Canadian Shipowners Association.

Additional data on wages for Exhibit 248.

—App. VI, p. 1193

253. Commonwealth of Australia.

Press Release issued in Melbourne, April 12, 1956, concerning “Merchant Shipbuilding in Australia”, (announcing continuation of subsidy assistance up to 33 1/3% in respect of merchant shipbuilding and control of importation of ships).

—App. VI, p.1194

254. Canada Steamship Lines, Limited.

Letter from Mr. C. P. Reddall, Chief Statistician, to Royal Commission on Coasting Trade—April 19, 1956, with details of various load draughts of the “T. R. McLagan”.

—App. VI, p.1196

255. Canadian Maritime Commission.

Statement showing particulars of vessels in preparation or under construction in Canadian shipyards as of June 30, 1956 (excluding naval vessels).

—App. VI, p.1198

256. Canada Steamship Lines, Limited.

Letter from Mr. T. R. McLagan to Royal Commission on Coasting Trade,

May 3, 1956, commenting on operating cost statement in Exhibit 248, submitted by Canadian Shipowners Association.

Statement comparing figures in Exhibit 248 and Exhibit 200, on a time basis, in respect to operating costs on movement of grain from Lakehead to Kingston.

—App. VI, p. 1202

257. Commonwealth of Australia.

Second reading speech by Senator, the Honourable Shane Paltridge, Australian Minister for Shipping and Transport, introducing the Australian Coastal Shipping Commission Bill—1956.

I — An Act to establish an Australian Coastal Shipping Commission to operate certain shipping services, and to repeal the Shipping Act—1949.

—App. VI, p.1210

II — An Act to approve an Agreement entered into by the Commonwealth with respect to Australian Coastal Shipping, and for purposes connected with that Agreement.

—App. VI, p.1226

APPENDIX IV

Hearings of the Royal Commission

Place, Date and Transcript Reference

<i>Place</i>	<i>Date</i>	<i>Transcript Page</i>
Ottawa—I	July 11—14, 1955	1—501
St. John's, Nfld.	July 25—28, 1955	502—1087
Halifax	August 2—3, 1955	1088—1349
Charlottetown	August 5, 1955	1350—1430
Saint John, N.B.	August 8—9, 1955	1431—1603
Port Arthur	August 22—23, 1955	1604—1753
Winnipeg—I	August 24, 1955	1754—1914
Victoria	August 29—30, 1955	1915—2118
Vancouver	August 31—September 2, 1955	2119—2501
Regina	September 7, 1955	2502—2655
Winnipeg—II	September 8, 1955	2656—2802
Quebec City	September 27—28, 1955	2803—3025
Trois-Rivières	September 29, 1955	3026—3072
Montreal	October 4—6, 1955	3073—4364
	October 11—15, 1955	
Midland	October 25, 1955	4365—4501
Hamilton	October 28, 1955	4502—4574
Toronto	October 31—November 2, 1955	4575—4930
Ottawa—II	December 19, 1955	4931—5055
Ottawa—III	January 4—11, 1956	5056—5993

APPENDIX V

Witnesses, Counsel, and Others Appearing

A

Allinson, C. L. C.	Ontario Shipping Intelligence Publishing Company	T.4822
Alport, F. ....	.....	T.4435
Anderson, E. A.	Manson's Landing Community Activities Committee	T.2293
Andrews, L. R.	British Columbia Lumber Manufacturers Association	T.2178
Anthony, Rev. W. R.	Parrsboro and District Board of Trade	T.1229
Armstrong, E. L.	Foster Wheeler Limited	T.4841
Armstrong, G.	Hamilton Chamber of Commerce	T.4516
Axelson, E.	Canadian Shipping and Marine Engineering News	T.4597, 5693

B

Baatz, W.	Saguenay Terminals Limited	T.3330
Bailey, C. L.	Atlas Steels Limited	T.4652
Baldwin, P. J.	John Inglis Co. Ltd.	T.4855
Ballock, A. E.	Bowater's Newfoundland Pulp and Paper Mills Limited, and Province of Newfoundland	T.697
Barrett, O. H.	Canadian Shipbuilding and Ship Repairing Association and Canadian Vickers Ltd.	T.270, 4193, 5079
Baxter, Capt. H. R. ..	Dominion Marine Association	T.425
Bell, J. K.	Maritime Marine Workers' Federation and National Council of Shipyard Unions, 1296, 1462, 1497, 1522, 1553	T.1160, 1553
Berthiaume, A., Q.C.	St. Lawrence Municipal Bureau of Montreal	T.3075
Bisson, C.	Cité des Trois-Rivières	T.3049
Black, R.	Davie Shipbuilding Ltd.	T.2943
Blair, G.	British Columbia Loggers Assoc. and British Columbia Lumber Manufacturers Association	T.5412
Bonner, Hon. R., Q.C.	Province of British Columbia	T.1917
Boyle, J. P.	Shipping Federation of Canada	T.3736
Braniff, Mayor G.	Collingwood Shipyards Limited and Town of Colling- wood	T.4445
Brayshaw, W.	Port Arthur Chamber of Commerce	T.1607
Brisset, J., Q.C.	Shipping Federation of Canada	T.3735, 3786, 5701
Bruce, D. I. W.	Canadian Westinghouse Co. Ltd.	T.4538
Bruce, J. W.	Vancouver, New Westminster and District Metal Trades Council, Victoria and District Metal Trades Council, Shipyard General Workers' Federation	T.2393
Bustard, E.	Dominion Marine Association	T.3696

C

Campanaro, G. A.	Canadian Westinghouse Co. Ltd.	T.4538
Campbell, Premier D. L.	Province of Manitoba	T.1754

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Campbell, E. W.	Province of Prince Edward Island	T.1379
Campbell, J. O. C., Q.C.	Province of Prince Edward Island and West Point Ferries	T.1414
Chambers, G.	Straits Towing Limited	T.2481
Chappell, M. R.	Maritimes Transportation Commission	T.1096
Charnock, E. W.	City of Fort William	T.1611, 1682, 1743
Cheeseman, R.	Province of Newfoundland	T.569
Clarke, B. F.	Clarke Steamship Co. Ltd. and Dingwall Shipping Co. Ltd.	T.3437, 5503
Clarke, D. A.	Clarke Steamship Co. Ltd.	T.3439
Clarke, S. D.	Clarke Steamship Co. Ltd.	T.3472
Cote, L., Q.C.	Canadian National Railways	T.7, 3941, 4084, 5636
Cowan, L.	Crane Limited	T.3215
Cranston, W. H.	Collingwood Shipyards Limited, Town of Colling- wood, Midland Shipyards, Town of Midland and Industrial Committee of Simcoe County Council	T.4368, 4479
Crate, H.	Dominion Marine Association	T.462, 3710
Cronkite, Dean F. L., Q.C.	Province of Saskatchewan	T.2507, 2613
Crosbie, A. H. T.	Constantine Lines Limited and Province of Newfoundland	T.802
Crosbie, C. A.	Province of Newfoundland	T.813
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Daley, L. F.	Newfoundland Canada Steamships Limited	T.1244
Delagrave, A.	Geo. T. Davie & Sons Ltd.	T.2897
Deslauriers, Capt. J.	Montreal Trades and Labour Council and Quebec Federation of Labour	T.3645, 3655
Dixon, S. G.	Shipbuilding Conference of the United Kingdom	T.94, 3201
Douglas, Hon. J. T. ..	Province of Saskatchewan	T.2503

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Edsforth, C. D.	Canadian Pacific Railway Company	T.28, 3952, 4048
Elder, M. A.	Windsor Chamber of Commerce	T.4846
Ellis, J. F.	Union Steamships Limited	T.2307
Elworthy, H. B.	Island Tug & Barge Limited and Young & Gore Tugboats Ltd.	T.2022
Evans, P.	Saskatchewan Wheat Pool	T.2741

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Ferguson, A. A.	Ferguson Industries Limited	T.1276
Ferguson, W. J.	Saskatchewan Farmers Union	T.2587
Fisher, W. J.	Canadian Shipowners Association	T.289, 2263, 5155, 5251, 5900
Fleming, J.	Maritime Marine Workers' Federation (C.C.L.)	T.1089
Foreman, R. E.	Canadian Marconi Company	T.3242
Foster, J. M.	Industrial Union of Marine and Shipbuilding Workers of Canada, Local No. 3, Saint John, N.B.	T.1513
Fowler, R. M.	Canadian Pulp and Paper Association	T.3664
Frawley, J. J., Q.C. ..	Province of Alberta	T.4748

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Gendron, Capt. J.	Ecole de Marine de Rimouski	T.3015
Gerard, R.	Montreal Trades and Labour Council	T.3648
Gerity, F. O.	Dominion Marine Association	T.44, 93, 323, 335, 341, 559, 581, 593, 646, 849, 854, 952, 955, 1227, 1268, 1458, 1492, 1850, 1909, 1928, 1943, 2056, 2112, 3101, 3134, 3174, 3209, 3690, 3947, 4534, 4571, 4593, 4662, 4780, 4911, 4921, 5168, 5249, 5320, 5115, 5660
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Graham, R. B.	Aluminum Company of Canada Ltd.	T.3282
Greene, J. J.	Committee on Coastal Shipping of Newfoundland	T.563, 956, 5941
Grieve, J.	Committee on Coastal Shipping of Newfoundland	T.1022
Griffith, E. B.	Toronto Harbour Commissioners	T.4577

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Halley, J.	Furness, Withy & Co. Ltd.	T.562, 856, 5185, 5390
Hamel, Mayor W. M.	Quebec Chamber of Commerce	T.2803
Handley, J.	Gypsum, Lime and Alabastine Canada Limited	T.4804
Hansard, H., Q.C.	Canada Steamship Lines Ltd.	T.4008
Harvey, R. A.	Committee on Coastal Shipping of Newfoundland	T.1043
Hawken, C.	Marine Industries Limited	T.4318
Hayes, Capt. A.	Committee on Coastal Shipping of Newfoundland	T.1064
Hickman, T. A.	Joint Councils of Burin District, Newfoundland	T.843, 899, 1017, 1037
Hill, J. C.	United Steelworkers of America, Local 5055	T.1705
Himmelman, Capt. E. H.	Zwicker & Company Limited	T.1338
Holbrook, D.	Algoma Steel Corporation Ltd.	T.4414
Hope, E. C.	Canadian Federation of Agriculture	T.4664, 5036, 5103, 5129, 5181, 5245, 5430, 5497
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Howard, Maj. Gen. G. B.	Canadian Industrial Preparedness Association	T.3104
Hunt, D. C.	Province of Newfoundland	T.511, 900, 1035, 3573, 3592, 4081, 4186, 5334
Husband, H.	Canadian Shipbuilding & Ship Repairing Association	T.1959
Hutcheson, J.	Clarke Steamship Co. Ltd.	T.3449, 3555

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Irving, K. C.	Kent Lines Ltd., Brunswick Motors Ltd., Irving Pulp & Paper Ltd.	T.5255
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Jackson, Gilbert	Canadian Shipbuilding and Ship Repairing Association and Canada Steamship Lines Ltd.	T.216, 1909, 3138, 3789, 4725, 4915, 4925, 5060, 5175, 5331, 5711
Jentz, C. D.	St. Lawrence Corporation Ltd.	T.3063
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Johnson, A.	Province of Newfoundland	T.719
Julien, Mayor A.	Cité de Cap-de-la-Madeleine	T.3055

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Kennedy, A. A.	William Kennedy & Sons Ltd.	T.4482
Kinley, Hon. J. J. .	Lunenburg Foundry & Engineering Limited	T.1323
Kinley, J. J., Jr.	Lunenburg Foundry & Engineering Limited	T.1299

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Lake, S. G.	Province of Newfoundland	T.799
Laws, F. A. J.	Province of Newfoundland	T.757
Leja, E.	Province of Newfoundland	T.671
Letourneau, R.	Geo. T. Davie & Sons Ltd.	T.2883
Lewis, Hon. P. J., Q.C.	Province of Newfoundland	T.96, 5335
Lowe, M. A.	Maritime Marine Workers' Federation (C.C.L.)	T.1089
Lowery, R.	Canadian Shipbuilding & Ship Repairing Association,	T.272,
	Canada Steamship Lines Ltd. and Davie Ship-	2917,
	building Limited	3835, 4976, 5189, 5738

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Malone, D.	St. Lawrence Corporation Ltd.	T.3069
Mann, H. A.	Canadian Industrial Traffic League Inc.	T.326
Matheson, Premier E.	Province of Prince Edward Island	T.1350
Matheson, R. H.	Maritimes Transportation Commission, Province of	T.582,
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Mayer, H.	Province of Manitoba	T.1764
Mearns, C. T.	Shipping Federation of Canada	T.3749
Mellis, E.	Industrial Union of Marine and Shipbuilding Workers	T.1516
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Merritt, V.C., Col. C. C.	Canadian Shipbuilding and Ship Repairing	T.2171,
	Association	2230, 2288, 2358
Miller, E.	Province of Newfoundland	T.517
Milliken, R. H.	Saskatchewan Wheat Pool	T.2602
Misener, Capt. R. S.	Dominion Marine Association	T.387
Missler, J.	Darling Brothers Limited	T.3222
Moffat, R. E.	Manitoba Federation of Agriculture and Co-operation	T.2766
Mooney, G.	St. Lawrence Municipal Bureau of Montreal	T.3084
Munro, D. B.	Gillespie-Munro Limited	T.3395

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MacDonald, D.	Canadian Congress of Labour	T.65
MacNeill, R. H.	Hudson Bay Route Association	T.1760
McCansh, J.	Owen Sound Chamber of Commerce	T.4406
McCauhl, P. M.	West Point Ferries Limited	T.1422
McClure, J.	Canadian Fairbanks-Morse Co., Ltd.	T.3279
McCormick, E.	Winnipeg Chamber of Commerce	T.2657
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McDougall, G. F.	Port Arthur Shipbuilding Company Limited	T.1639, 1692
McDougall, Prof. J. L.	Dominion Marine Association	T.358, 1909
McEwen, I.	Dominion Marine Association	T.469

McGough, J.	Montreal Trades and Labour Council and Quebec Federation of Labour	T.3641, 3656
McGrath, W.	Industrial Union of Marine and Shipbuilding Workers of Canada, Local No. 3, Saint John, N.B.	T.1519
McKay, A. M.	Maritimes Transportation Commission	T.1094
McKay, C.	Maritimes Transportation Commission	T.1432
McKie, H. B.	National Association of Marine Engineers of Canada, Inc.	T.2370, 2429
McLagan, T. R.	Canada Steamship Lines Ltd. and Canadian Shipbuilding and Ship Repairing Association	T.230, 3790, 4968, 5731, 5845
McLanders, T. S.	Dominion Steel and Coal Corporation Ltd. and Maritimes Transportation Commission	T.1089, 1098
McLaughlin, L. L.	Montreal Trades and Labour Council	T.3648
McMillan, J.	Canadian Blower & Forge Co. Ltd.	T.4795

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New, O. H.	British Columbia Towboat Owners' Association	T.2122, 2431
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Paquet, M.	Geo. T. Davie & Sons Ltd.	T.2903
Paradis, Mayor L.	Cité des Trois-Rivières	T.3026
Parent, R.	Canadian and Catholic Confederation of Labour and National Metal Trades Federation	T.108
Parker, Mayor C. N.	Town of Midland and Midland Shipyards Limited	T.4365
Parkes, A. T.	Maritimes Transportation Commission	T.1097
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Paul-Hus, F.	Canadian Shipbuilding and Ship Repairing Association and Marine Industries Limited	T.4334, 5052
Payne, T. S.	Canadian and Catholic Confederation of Labour and National Metal Trades Federation	T.105
Peck, J. A. S.	Canadian Shipbuilding and Ship Repairing Association	T.4206, 5039
Phillip, W. S.	John Inglis Co. Ltd.	T.4857
Pincott, G. S.	Canadian Pulp and Paper Association	T.3664
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Poisson, Y.	Quebec Chamber of Commerce	T.2811, 2840
Pratte, L.	Quebec Chamber of Commerce	T.2811
Prentice, O.	Island Tug & Barge Limited and Young & Gore Tugboats Ltd.	T.2022
Proteau, A.	Quebec Chamber of Commerce	T.2808
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Rogers, C. J.	British Yukon Ocean Services Ltd.	T.2240
Rowan, F.	Dominion Marine Association	T.3947
Rowntree, H. L.	Newfoundland-Great Lakes Steamships Limited	T.639, 689, 901, 5930
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Savage, C. G.	Anticosti Shipping Company	T.3145
Schulz, J.	Interprovincial Farm Union Council	T.2715
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Sharpe, Mayor G. E.	Province of Manitoba	T.1757
Shaw, R.	MacMillan & Bloedel Limited	T.2200
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Simard, A.	Branch Lines Limited and Marine Industries Limited	T.661, 746, 809, 1410, 1494, 1521, 3113, 3177, 3265, 3319, 3384, 3420, 3646, 3688, 3775, 4278, 4311, 4494, 4534, 4567, 5885
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Smith, H. D.	Maritimes Transportation Commission	T.1088, 5397
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Solomon, E.	Province of Manitoba	T.1792
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Spooner, J. J.	City of Fort William	T.1605
Steinhauer, J. B.	Province of Newfoundland	T.829
Stevens, A.	Saskatchewan Wheat Pool	T.2602
Stone, F. V.	Canadian Pacific Railway Company	T.4023, 4078
Sufrin, B.	Province of Saskatchewan	T.2507
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Teed, J. F. H.	Kent Lines Limited, Brunswick Motors Ltd., Irving Pulp & Paper Ltd.	T.1497, 4881, 5254, 5374
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Thoman, R. K.	Canadian Vickers Limited	T.4218
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Van Wyck, N. W.	Canada Steamship Lines Ltd.	T.3885
Verge, A.	St. Lawrence Shipowners' Association Inc.	T.2974
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Wallace, H. A.	Canadian Shipbuilding and Ship Repairing Association	T.1944
Walton, H. W.	Collingwood Shipyards Limited	T.4367, 4452, 4498
	and Town of Collingwood, Midland Shipyards and Town of Midland	
Whelan, T.	Province of British Columbia	T.1917
Whitson, T. H.	British Columbia Loggers' Assoc.	T.2274
Wilson, F. G.	Saint John Dry Dock Co. Ltd.	T.1464
Wismer, L. E.	Trades and Labour Congress of Canada	T.170
Wray, H. W.	A. E. Watts Limited	T.3231
Wright, J. A.	Canadian Pacific Railway Company	T.27, 208, 1877, 1935, 2020, 2075, 2164, 2195, 2227, 2258, 2286, 2349, 2392, 2554, 2702, 3365, 3952, 5610
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Young, J. E.	City of Fort William	T.1605
Young, R.	Committee on Coastal Shipping of Newfoundland	T.974

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Zwicker, F. H.	Zwicker & Company Limited	T.1329

APPENDIX VI

List of Organizations, Briefs, Representatives, Witnesses and Counsel Appearing

<i>Organizations and Persons</i>	<i>Addresses</i>	<i>Briefs</i>	<i>Transcrip Pages</i>
Alberta Federation of Agriculture	Edmonton	B-119 Ex. 64	T.2506
Alberta, Province of (Department of Agriculture)	Edmonton	B-2	
Alberta, Province of (additional submission)	Edmonton	B-126 Ex. 162	T.4748
J. J. Frawley, Q.C., Counsel			
Algoma Steel Corporation Ltd.	Sault Ste. Marie, Ont.	B-106	T.4414
D. S. Holbrook, Executive Vice-President			
Alport, Frederic, Consulting Engineer, Collingwood and Midland Shipyards	Orillia, Ont.	B-137	T.4435
Aluminum Company of Canada Ltd.	Montreal	B-41	T.3282
R. Barry Graham, General Traffic Manager			
Anticosti Shipping Company	Montreal	B-19	T.3145
C. G. Savage, General Manager			
Atlas Steels Limited	Welland, Ont.	B-33	T.4652
C. L. Bailey, Vice-President			
Bathurst Mining Corporation Ltd.	Toronto	B-40	
Bowater's Newfoundland Pulp and Paper Mills Limited	Corner Brook, Nfld.	B-17	T.697
Anthony E. Ballock, Assistant to General Manager			
Bowater Steamship Co. Ltd. (submitted on their behalf by Furness, Withy Co. Ltd., Montreal, P.Q.)	London, England	B-14	
Branch Lines Limited	Montreal	B-78	T.4278
Arthur Simard, Director			
Henri Tellier, Director and Manager			
British Columbia, Province of	Victoria	B-111	T.1917
Hon. R. W. Bonner, Q.C., Attorney-General			
M. Glover, Assistant Director, Bureau of Economics and Statistics			
T. Whelan, Research Assistant, Bureau of Economics and Statistics			
British Columbia Loggers' Association	Vancouver	B-59	T.2268
James C. Sheasgreen, Director and Logging Manager, Crown Zellerbach, Canada, Limited			5412
T. H. Whitson, Traffic Department, Crown Zellerbach, Canada, Limited			
Gordon Blair, Counsel			

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British Columbia Lumber Manufacturers Association, Consolidated Red Cedar Shingle Association of B.C., The Plywood Manufacturers Association of B.C. L. R. Andrews, Executive Vice-President Gordon Blair, Counsel	Vancouver	B-55	T.2178, 5412
British Columbia Towboat Owners' Association O. H. New, Member of Executive and Managing Director, Coastal Towing Company	Vancouver	B-57	T.2122, 2431
British Shipping, General Council of	London, England	B-26	
British Yukon Ocean Services Ltd. C. J. Rogers, President	Vancouver	B-98	T.2240
Burin District, Joint Councils of T. A. Hickman, Counsel	Burin, Nfld.	B-72	T.1076
Burrard Dry Dock Company Limited C. S. Thicke, Executive Vice-President	Vancouver	B-139	T.2446
Labot Carbon of Canada Ltd.	Sarnia, Ont.	B-8	
Canada Steamship Lines Ltd. T. R. McLagan, President R. Lowery, Vice-President N. W. Van Wyck, Vice-President Hazen Hansard, Q.C., Counsel Gilbert Jackson, Economist	Montreal	B-80	T.3790
Canada Steamship Lines Ltd. (additional submission)	Montreal	B-140 Ex. 95	T.3790
Canada Steamship Lines Ltd. (additional submission)	Montreal	B-161	T.4925
Canada Steamship Lines Ltd. (additional submission)	Montreal	B-163	T.4968
Canada Steamship Lines Ltd. (additional submission)	Montreal	B-171	T.5189, 5845
Canadian Atlantic Fishing Association W. R. Ritcey, Ritcey Brothers Fisheries	Halifax	B-141	T.1342
Canadian Blower & Forge Co. Ltd. John McMillan, Vice-President	Kitchener, Ont.	B-43	T.4795
Canadian Car & Foundry Co. Ltd.	Montreal	B-1	
Canadian and Catholic Confederation of Labour and National Metal Trades Federation T. S. Payne, Representative, National Metal Trades Federation Raymond Parent, Secretary of Central Council of the Catholic Syndicates of Quebec Inc.	Montreal	B-101	T.105
Canadian Congress of Labour Donald MacDonald, Secretary-Treasurer	Ottawa	B-75	T.65
Canadian Federation of Agriculture Dr. E. C. Hope, Economist	Ottawa	B-127 Ex. 161	T.4663

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Canadian Federation of Agriculture (additional submission)	Ottawa	B-172	T.524-543
Canadian Industrial Preparedness Association Major-General G. B. Howard, Executive Vice-President and General Manager	Montreal	B-52	T.310
Canadian Industrial Traffic League Inc. H. A. Mann, General Secretary	Toronto	B-69	T.326
Canadian Marconi Company R. E. Foreman, Manager, Marine Division	Montreal	B-88	T.324
Canadian Maritime Transport Workers' Assoc.	Montreal	B-51	
Canadian National Railways Lionel Coté, Q.C., Solicitor J. A. McDonald, Assistant to Vice-President, Research and Development Department C. L. McCoy, Assistant General Freight Traffic Manager, Canadian Lines Jurisdiction	Montreal	B-92	T.8
Canadian National Railways (additional submission)	Montreal	B-142	T.408-563
Canadian Pacific Railway Company J. A. Wright, Q.C., Solicitor C. D. Edsforth, Assistant General Traffic Manager F. V. Stone, Manager, Department of Research	Montreal	B-87	T.28
Canadian Pacific Railway Company (additional submission)	Montreal	B-143	T.395-561
Canadian Pulp and Paper Association R. M. Fowler, President G. S. Pincott	Montreal	B-71	T.366
Canadian Shipbuilding and Ship Repairing Association T. R. McLagan, President; President and General Manager, Canada Steamship Lines Ltd. R. Lowery, President, Davie Shipbuilding Limited, Lauzon E. Simard, Vice-President, Sorel Industries Ltd. and Marine Industries Ltd. Col. O. H. Barrett, President, Canadian Vickers Ltd. J. A. S. Peck, Executive Assistant to General Manager, Canadian Vickers Ltd. F. Paul-Hus, Naval Architect, Marine Industries Limited, Sorel, P.Q. Gilbert Jackson, Economist	Ottawa	B-82	T.216
Canadian Shipbuilding and Ship Repairing Association (additional submission)	Ottawa	B-166	T.506-571

<i>Organizations and Persons</i>	<i>Addresses</i>	<i>Briefs</i>	<i>Transcript Pages</i>
Canadian Shipbuilding and Ship Repairing Association, British Columbia Member Shipyards of, H. A. Wallace, Vice-President and Managing Director, Yarrows Ltd., Victoria Harold Husband, President, Victoria Machinery Depot Co. Ltd., Victoria Col. C. C. I. Merritt, V.C., Counsel	Victoria	B-103	T.1943
Canadian Shipowners Association W. J. Fisher, General Manager	Ottawa	B-38	T.289, 2263
Canadian Shipowners Association (additional submission)	Ottawa	B-169	T.5155, 5900
Canadian Shipping and Marine Engineering News Eric R. Axelson, Editor	Toronto	B-12	T.4597
Canadian Shipping and Marine Engineering News (additional submission)	Toronto	B-144	T.4600, 5693
Canadian Vickers Limited Col. O. H. Barrett, President R. K. Thoman, Vice-President and General Manager	Montreal	B-81	T.4193
Canadian Vickers Limited (additional submission)	Montreal	B-164	T.5039
Canadian Westinghouse Co. Ltd. G. A. Campanaro, General Manager, Commercial Development D. I. W. Bruce, Assistant Secretary	Hamilton	B-60	T.4538
Cap-de-la-Madeleine, Cité de André Julien, Mayor	Cap-de-la-Madeleine, P.Q.	B-145	T.3055
Clarke Steamship Co. Ltd., Terra Nova Steamship Co. Ltd., Gulf Ports Steamship Co. Ltd., La Cie de Transport du Bas St-Laurent Ltée., Magdalen Islands Transportation Co. Ltd., La Traverse Rivière-du-Loup-St-Siméon, Ltée. D. A. Clarke, President S. D. Clarke, General Manager J. Hutcheson, Assistant Traffic Manager Brock F. Clarke, Counsel	Montreal	B-68	T.3437, 5503
Collingwood Shipyards Limited and Town of Collingwood G. Braniff, Mayor of Collingwood W. H. Cranston, Editor and owner of Midland Free Press, Midland, Ont. H. W. Walton, Vice-President and General Manager, Collingwood Shipyards Ltd.	Collingwood, Ont.	B-63	T.4452, 4498
Collingwood, Town of G. Braniff, Mayor	Collingwood, Ont.	B-138	T.4445

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<i>Organizations and Persons</i>	<i>Addresses</i>	<i>Briefs</i>	<i>Transcript Pages</i>
Consolidated Paper Corp. Ltd. J. Henri Plouffe, Traffic Manager	Montreal	B-37	T.3115
Constantine Lines Limited Alexander H. Crosbie, Director, Murray Agencies, St. John's, Newfoundland	Middlesbrough, England.	B-66	T.802
Crane Limited Lucien Cowan, Executive Assistant	Montreal	B-74	T.3215
Darling Brothers Limited John Missler, Engineer, Marine Auxiliary Equipment Division	Montreal	B-5	T.3222
Davie Shipbuilding Limited R. Lowery, President R. Black, General Manager	Lauzon, P.Q.	B-136	T.2917, 4928
Davie Shipbuilding Limited (additional sub- mission)	Lauzon, P.Q.	B-136	T.2917
Davie & Sons Ltd., Geo. T. A. Delagrave, President M. Paquet, General Manager R. Létourneau, Q.C., Counsel	Lauzon, P.Q.	B-135	T.2883
Desagnés, Capt. Roger	St-Joseph-de-la- Rive (Charlevoix) P.Q.	B-9	
Dingwall Shipping Co. Ltd. B. F. Clarke, Counsel	Halifax	B-85	
Dingwall Shipping Co. Ltd. (additional sub- mission)	Halifax	B-167 Ex. 207	T.5057
Dominion Marine Association Capt. R. S. Misener, President, Colonial Steamships Ltd. Capt. H. R. Baxter, Operating Manager, Canada Steamship Lines Ltd. Harold Crate, Chartered Accountant with firm Thorne, Mulholland, Howson & McPherson Ira McEwen, Traffic Manager, N. M. Pater- son & Sons Limited Ernest Bustard, Naval Architect Frank Rowan, Montreal Manager, Canadian Wheat Board, and Assistant Transport Controller George R. Donovan, Secretary F. O. Gerity, Counsel J. L. McDougall, Professor of Economics, Queen's University, Kingston, Ont.	Toronto	B-28	T.341
Dominion Marine Association (additional sub- mission)	Toronto	B-146 Ex. 7	T.353
Dominion Marine Association (additional sub- mission)	Toronto	B-147	T.3690

<i>Organizations and Persons</i>	<i>Addresses</i>	<i>Briefs</i>	<i>Transcript Pages</i>
Dominion Marine Association (additional sub- mission)	Toronto	B-148	T.3947
Dominion Marine Association (additional sub- mission)	Toronto	B-160 Ex. 165	T.4921
Dominion Marine Association (additional sub- mission)	Toronto	B-168	T.5115, 5660
Dominion Steel & Coal Corporation Ltd. T. S. McLanders, Executive Assistant	Sydney, N.S.	B-149	T.1098
Dundee, Perth and London Shipping Co. Ltd.	Dundee, Scotland	B-97	
Ecole de Marine de Rimouski	Rimouski, P.Q.	B-10	T.3015
Capt. Jacques Gendron, Commanding Officer			
Fairbanks-Morse Co., Limited, Canadian George R. Wyer, Executive Vice-President James McClure, Assistant Manager, Marine Division	Montreal	B-83	T.3267
Federated Co-operatives Limited	Saskatoon	B-45	
Ferguson Industries Limited A. A. Ferguson, President	Pictou, N.S.	B-102	T.1276
Fisheries Council of Canada	Ottawa	B-104	
Fort William, City of E. W. Charnock, representing City of Fort William and Chamber of Commerce J. E. Young, Alderman J. J. Spooner, Alderman George Houston, Chamber of Commerce	Fort William, Ont.	B-46	T.1605, 1682
Foster Wheeler Limited E. L. Armstrong, Public Relations	St. Catharines, Ont.	B-7	T.4841
Furness, Withy & Co. Ltd. James Halley, Counsel E. P. Rees, Resident Director of Canadian Operations, Montreal	Montreal	B-13	T.856
Furness, Withy & Co. Ltd. (additional sub- mission)	Montreal	B-170	T.5185, 5390
Gillespie-Munro Limited David B. Munro, Vice-President	Montreal	B-91	T.3395
Grand Manan Board of Trade	Grand Manan, N.B.	B-24	
Gypsum Lime and Alabastine Canada Limited J. Handley, Traffic Manager	Toronto	B-94	T.4804
Hamilton Chamber of Commerce J. G. Saunders, General Secretary and Man- ager, Transportation Department George Armstrong, Chairman, Industrial Transportation Committee	Hamilton	B-61	T.4503
Hamilton Chamber of Commerce (additional submission)	Hamilton	B-128 Ex. 154	T.4504
Hudson Bay Route Association R. H. MacNeill, Executive Director	Saskatoon	B-58	

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<i>Organizations and Persons</i>	<i>Addresses</i>	<i>Briefs</i>	<i>Transcrip Pages</i>
Hudson Bay Route Association (additional submission)	Saskatoon	B-124 Ex. 69	T.2740
Industrial Union of Marine and Shipbuilding Workers of Canada, Local No. 3 and Associated Groups J. M. Foster E. Mellis W. McGrath L. Vincent	Saint John, N.B.	B-16	T.1515
Inglis Co. Ltd., John P. J. Baldwin, Executive Assistant W. S. Phillip, Manager, Turbine Division	Toronto	B-99	T.4855
Inglis Co. Ltd., John (additional submission)	Toronto	B-151	T.4857
Interprovincial Farm Union Council Jacob Schultz, Chairman	Saskatoon	B-112	T.2715
Iron Ore Company of Canada Hugh O'Donnell, Q.C., Counsel	Montreal	B-108	T.3425
Iron Ore Transport Co. Ltd. Hugh O'Donnell, Q.C., Counsel	Montreal	B-109	T.3432
Island Tug & Barge Limited and Young & Gore Tugboats Ltd. H. B. Elworthy, President, Island Tug & Barge Limited O. M. Prentice, Secretary-Treasurer and Director	Victoria	B-54	T.2022
Kennedy & Sons Ltd., William A. A. Kennedy	Owen Sound, Ont.	B-18	T.4482
Kent Lines Ltd., Brunswick Motors Ltd., Irving Pulp & Paper Ltd. K. C. Irving, President and Managing Director, Irving Pulp & Paper Ltd., and President of Kent Lines Ltd. J. F. H. Teed, Q.C., Counsel	Saint John, N.B.	B-129 Ex. 164	T.4881
Kent Lines Ltd., Brunswick Motors Ltd., Irving Pulp & Paper Ltd. (additional submission)	Saint John, N.B.	B-173	T.5254, 5374
Labour-Progressive Party, B.C. S. P. Zlotnik	Vancouver	B-118 Ex. 63	T.2489
Lunenburg Foundry & Engineering Limited Hon. J. J. Kinley, President John J. Kinley, Jr., Vice-President and Managing Director	Lunenburg, N.S.	B-130 Ex. 34	T.1299
MacMillan & Bloedel Limited Ralph Shaw, Vice-President (Sales)	Vancouver	B-42	T.2200
Manitoba Federation of Agriculture and Co-operation Robert E. Moffat, Counsel	Winnipeg	B-125 Ex. 70	T.2765

<i>Organizations and Persons</i>	<i>Addresses</i>	<i>Briefs</i>	<i>Transcript Pages</i>
Manitoba, Province of	Winnipeg	B-77	T.1761, 5563
Hon. D. L. Campbell, Premier			
G. E. Sharpe, Mayor of Winnipeg			
C. D. Shepard, Q.C., Counsel			
Dr. Harold M. Mayer, Assistant Professor of Geography, University of Chicago			
Dr. Ezra Solomon, Assistant Professor, School of Business, University of Chicago			
Manson's Landing Community Activities Committee	Manson's Landing, B.C.	B-116	T.2294
Elton A. Anderson, Executive Member, Manson's Landing Community Club			
Marine Industries Limited	Sorel, P.Q.	B-152	T.4311
Arthur Simard, Director			
Cameron Hawken, Secretary and Assistant Controller			
F. Paul-Hus, Naval Architect			
Marine Industries Limited (additional submis- sion)	Sorel, P.Q.	B-165	T.5052, 5885
Maritime Marine Workers' Federation (C.C.L.)	Halifax	B-15	T.1160
J. K. Bell, Secretary-Treasurer, Maritime Marine Workers' Federation			
J. Fleming, President, Industrial Shipwork- ers' Union, Local 1			
M. A. Lowe, Executive Member			
Maritimes Transportation Commission	Moncton, N.B.	B-100	T.1088, 1431, 5397
A. M. McKay, President			
Rand H. Matheson, Executive Manager			
M. R. Chappell, Cape Breton Associated Boards of Trade			
A. T. Parkes, Secretary, Maritime Board of Trade			
T. S. McLanders, Executive Assistant, Dom- inion Steel & Coal Corporation, Sydney, N.S.			
H. D. Smith, Counsel			
C. McKay, Chairman, Transportation Com- mittee, Maritime Lumber Bureau			
Markland Shipping Co. Ltd.	Liverpool, N.S.	B-131 Ex. 35	T.1349
McAvity & Sons Limited, T.	Saint John, N.B.	B-32	
Midland, Town of, and Midland Shipyards Limited	Midland, Ont.	B-64	T.4452, 4498
Charles N. Parker, Mayor of Midland			
H. W. Walton, Vice-President and Director, Collingwood Shipyards Ltd., and Midland Shipyards Ltd.			
W. H. Cranston, Editor and owner, Midland Free Press, Midland, Ont.			

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Montreal, St. Lawrence Municipal Bureau of George Mooney, Director Albert Berthiaume, Q.C., Representing the City of Montreal	Montreal	B-84	T.3076
Montreal Trades and Labour Council Roméo Gérard, Secretary John McGough, District Secretary, Great Lakes and Eastern District, National As- sociation of Marine Engineers of Canada Capt. J. J. DesLauriers, Agent, Canadian Merchant Service Guild, Eastern Division Leonard J. McLaughlin, Secretary-Treasurer, Seafarer's International Union of North America, Canadian District	Montreal	B-153	T.3648
National Association of Marine Engineers of Canada, Inc. H. B. McKie, Secretary	Vancouver	B-3	T.2370, 2429
National Council of Shipyard Unions J. K. Bell, Secretary-Treasurer	Halifax	B-107	T.1553
Newfoundland Canada Steamships Limited Lawrence F. Daly, Counsel	Halifax	B-132 Ex. 33	T.1244
Newfoundland, Committee on Coastal Ship- ping of Ross Young, Chairman, and Member of Newfoundland Fisheries Development Authority James Grieve, Member, and Chairman of Newfoundland Shipowners and Ship- builders' Advisory Committee Richard A. Harvey, Member, and Director, Vessel Construction and Inspection, New- foundland Department of Fisheries Capt. Archibald Hayes, President, New- foundland Coasting Association J. J. Greene, Counsel	St. John's, Nfld.	B-76	T.956
Newfoundland, Committee on Coastal Ship- ping of (additional submission)	St. John's, Nfld.	B-162 Ex. 236	T.5941
Newfoundland Fluorspar Limited Dr. Warren S. Smith, Manager	St. Lawrence, Nfld.	B-48	T.783
Newfoundland, Province of Hon. J. Smallwood, Premier Hon. P. J. Lewis, Q.C., Minister without Portfolio Douglas C. Hunt, Government Counsel J. A. Crosbie, Assistant Government Counsel Edgar Miller, Chairman, Newfoundland Board of Trade Transportation Commis- sion and Vice-Chairman, Maritimes Transportation Commission	St. John's, Nfld.	B-56	T.503, 5334

<i>Organizations and Persons</i>	<i>Addresses</i>	<i>Briefs</i>	<i>Transcript Pages</i>
Newfoundland, Province of (Cont'd)	St. John's, Nfld.	B-56	T.503, 5334
Roy Cheeseman, Manager, Bowring Brothers Wholesale and Vice-Chairman, Wholesale Section, Newfoundland Board of Trade			
Rand H. Matheson, Executive Manager, Maritimes Transportation Commission			
Dr. Ernest Leja, Managing Director, Atlan- tic Gypsum Limited.			
Anthony E. Ballock, Assistant to General Manager, Bowaters' Newfoundland Pulp and Paper Mills Limited			
Arthur Johnson, Secretary, Gadens Ltd.			
Frederick A. J. Laws, Manager, Newfound- land Associated Fish Exporters Limited			
G. Campbell Eaton, Director, Fisheries Products Limited			
Spencer G. Lake, Managing Director, Gaul- tois Fisheries and Burger Fish Industries, Limited			
Alexander H. Crosbie, Director, Murray Agencies, St. John's, Newfoundland			
Chesley A. Crosbie, President, Chimo Ship- ping Limited			
James B. Steinhauer, Managing Director, Newfoundland Coal Company			
Cyril Horwood, President, Newfoundland Board of Trade			
Newfoundland-Great Lakes Steamships Lim- ited	Toronto	B-70	T.901, 5930
Charles H. Tregenza, President			
H. L. Rowntree, Counsel			
Newfoundland Transportation Company Lim- ited	St. John's, Nfld.	B-4	
Nicholson, George	Victoria	B-20	T.2081
North Star Cement Limited	Corner Brook, Nfld.	B-11	
Ontario Mayors and Reeves, Association of	Toronto	B-53	
Ontario Shipping Intelligence Publishing Co.	Toronto	B-95	T.4822
C. L. C. Allinson, owner			
Owen Sound Chamber of Commerce	Owen Sound, Ont.	B-27	T.4406
J. McCansh, President			
Parrsboro and District Board of Trade	Parrsboro, N.S.	B-31	T.1229
Rev. W. R. Anthony, Secretary			
Peacock Brothers Limited	Montreal	B-23	
Plymouth Cordage Company of Canada Lim- ited	Welland, Ont.	B-86	
Port Arthur Chamber of Commerce	Port Arthur, Ont.	B-35	T.1607
Fred Robinson, Mayor of Port Arthur			
William Brayshaw, Alderman			

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<i>Organizations and Persons</i>	<i>Addresses</i>	<i>Briefs</i>	<i>Transcrip- Pages</i>
Port Arthur Shipbuilding Company Ltd. G. F. McDougall, General Manager	Port Arthur, Ont.	B-73	T.1639
Prince Edward Island, Province of Hon. E. Matheson, Premier Hon. Eugene Cullen, Minister of Agriculture Elric W. Campbell, Secretary, Prince Edward Island Potato Dealers' Associa- tion Rand H. Matheson, Executive Manager, Maritimes Transportation Commission J. O. C. Campbell, Q.C., Counsel	Charlottetown	B-154	T.1350
Project Sales Limited P. F. Sorenson, President B. M. Sriver, Vice-President	Montreal	B-105	T.3187
Quebec Board of Trade Yves Poisson, Secretary Marc Turcotte, Professor, Faculty of Com- merce, Laval University, Quebec City Louis Pratte, Counsel A. Proteau, President	Quebec	B-89	T.2811
Quebec Board of Trade (additional submission)	Quebec	B-133 Ex. 71	T.2811
Quebec Federation of Labour R. Provost, President J. McGough, District Secretary, National Association of Marine Engineers of Can- ada Capt. J. J. DesLauriers, representing Cana- dian Merchant Service Guild Inc.	Montreal	B-155	T.3622
Rimouski Marine School (See Ecole de Marine de Rimouski)			
Saguenay Terminals Limited W. Baatz, Treasurer	Montreal	B-62	T.3330
Saint John Dry Dock Co. Ltd. Frank G. Wilson, Vice-President	Saint John, N.B.	B-156	T.1464
Saskatchewan Farmers Union W. J. Ferguson, Second Vice-President	Saskatoon	B-121 Ex. 66	T.2587
Saskatchewan, Province of Hon. J. T. Douglas, Minister of Highways and Transportation	Regina	B-90	T.2507
F. L. Cronkite, Q.C., Dean of Law, Univer- sity of Saskatchewan, Saskatoon, Sask. Bernard Sufrin, Economist, Provincial Gov- ernment			
Saskatchewan, Province of (additional sub- mission)	Regina	B-120 Ex. 65	T.2509
Saskatchewan, Province of (Department of Agriculture)	Regina	B-21	

<i>Organizations and Persons</i>	<i>Addresses</i>	<i>Briefs</i>	<i>Transcript Pages</i>
Saskatchewan Wheat Pool Arthur Stevens, Assistant Secretary Percy A. Evans, Export Manager (Winnipeg) R. H. Milliken, Q.C., Counsel J. J. Norquay, Vessel Agent, (Winnipeg)	Regina	B-122 Ex. 67	T.2602, 2741
Shaw Steamship Co. Ltd.	Halifax, N.S.	B-6	
Shipbuilding Conference of the United Kingdom S. G. Dixon, Q.C., Counsel	London, England	B-25	T.3201
Shipping Federation of Canada James B. Boyle, President Charles T. Mearns, Secretary Jean Brisset, Q.C., Counsel	Montreal	B-65	T.3735, 5701
Shipping Federation of Canada (additional submission)	Montreal	B-157	T.3786
Simcoe County Council, Industrial Committee of, and Advisory Committee on Local Employment, Midland Area Charles N. Parker, Mayor of Midland W. H. Cranston, Editor and owner of Midland Free Press, Midland, Ont.	Midland, Ont.	B-30	T.4368
St. Lawrence Corporation Ltd. C. D. Jentz, Manager, Newsprint Division D. Malone, Stevedore	Trois-Rivières, P.Q.	B-159	T.3063
St. Lawrence Shipowners' Association Inc. André Verge, Counsel	Quebec	B-49	T.2974
St. Lawrence Shipowners' Association Inc. (additional submission)	Quebec	B-158	T.2975
Straits Towing Limited Graham Chambers	Vancouver	B-117 Ex. 62	T.2481
Sun Steamships Limited	Toronto	B-22	
Swainson, Neil A., School Teacher	Victoria	B-113 Ex. 53	T.2105
Three Rivers, City of (See Trois Rivières. Cité des)			
Tombs Limited, Guy	Montreal	B-44	
Toronto Board of Trade J. C. Noseworthy, Traffic Manager	Toronto	B-50	T.4584
Toronto Harbour Commissioners E. B. Griffith, General Manager	Toronto	B-134 Ex. 155	T.4578
Trades and Labour Congress of Canada Claude Jodoin, President L. E. Wismer, Director of Research	Ottawa	B-34	T.170
Trois-Rivières, Cité des Laurent Paradis, Mayor Marcel Ouellet, Industrial Commissioner Claude Bisson, representing Junior Chamber of Commerce	Trois-Rivières, P.Q.	B-110	T.3026

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Union Steamships Limited John F. Ellis, General Manager G. A. Rushton, Assistant General Manager	Vancouver	B-93	T.2312
Union Steamships Limited (additional submission)	Vancouver	B-115 Ex. 57	T.2307
United Steelworkers of America, Local 5055 James C. Hill, Staff Representative	Port Arthur, Ont.	B-114	T.1706
Vancouver, New Westminster & District Metal Trades Council, Victoria and District Metal Trades Council, Shipyard General Workers' Federation John W. Bruce, Organizer, United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada	Vancouver	B-36	T.2393
Watts Limited, A. E. H. W. Wray, General Manager	Ville-St-Laurent, P.Q.	B-39	T.3231
West Point Ferries Limited Peter M. McCaull, Director J. O. C. Campbell, Q.C., Counsel	O'Leary, P.E.I.	B-29	T.1414
Windsor Chamber of Commerce M. A. Elder, Industrial Commissioner for Chamber of Commerce	Windsor, Ont.	B-47	T.4846
Winnipeg Chamber of Commerce Evan McCormick, Executive Director	Winnipeg	B-96	T.2657
Winnipeg Chamber of Commerce (additional submission)	Winnipeg	B-123 Ex. 68	T.2657
Zwicker & Company Limited F. Homer Zwicker, Managing Director Capt. E. H. Himmelman, Operator of small coasting vessels out of La Have and Lunenburg	Lunenburg, N.S.	B-67	T.1329

APPENDIX VII

Chronological Table of Selected Statutes

Selected Statutes of the United Kingdom Parliament Affecting Coasting Trade of Canada

- An Act to Amend the Laws in Force for the Encouragement of British Shipping and Navigation, 1849, 12 and 13 Vict. c. 29, ss. 2-6.
- Customs Consolidation Act, 1853, 16 and 17 Vict. c. 107, ss. 151-158, ss. 163 and 164, ss. 190 and 191 and ss. 324-331.
- An Act to Admit Foreign Ships to the Coasting Trade, 1854, 17 and 18 Vict. c. 5.
- An Act to Consolidate Certain Acts and Otherwise Amend the Laws of the Customs and An Act to Regulate the Office of the Receipt of Her Majesty's Exchequer of Westminster, 1855, 18 and 19 Vict. c. 96, ss. 13-16.
- Merchant Shipping Act, 1854, 17 and 18 Vict. c. 104, s. 547.
- The Merchant Shipping Acts Repeal Act, 1854, 17 and 18 Vict. c. 120.
- The Merchant Shipping (Colonial) Act, 1869, 32 Vict. c. 11.
- The Naturalization Act, 1870, 33 Vict. c. 106.
- The Merchant Shipping Act, 1894, 57 and 58 Vict. c. 60.
- The British Nationality and Status of Aliens' Act, 1914, 4 and 5 Geo. V, c. 17.
- The Statute of Westminster, 1931, 22 Geo. V, c. 4.

Statutes of Canada Affecting Coasting Trade and Shipbuilding and Repairing

- An Act Respecting the Coasting Trade of Canada, 1870, 33 Vict. c. 14.
- An Act to Amend "An Act Respecting the Coasting Trade of Canada" 1875, 38 Vict. c. 27.
- An Act to Alter the Duties of Customs and Excise, 1879, 42 Vict. c. 15, Schedule A.
- The Naturalization Act, Canada, 1881, 44 Vict. c. 13.
- An Act Further to Amend the Several Acts Imposing Duties of Customs Now in Force, 1882, 45 Vict. c. 6, s. 2.
- An Act Respecting the Coasting Trade of Canada, R.S.C. 1886, c. 83.
- The Naturalization Act, R.S.C. 1886, c. 113.
- An Act Respecting the Duties of Customs, R.S.C. 1886, c. 33, Schedule A, item 574.
- In the R.S.C. of 1886 the law on shipping was contained in a number of separate Acts with chapter numbers 72 to 86 of the R.S.C.
- The Customs Tariff Act, 1897, 60-61 Vict. c. 16, Schedule A, item 409.
- An Act Respecting the Coasting Trade of Canada, 1902, 2 Edw. VII, c. 7.
- An Act to Amend the Customs Tariff, 1897, 1903, 3 Edw. VII, c. 15, s. 2.
- The Canada Shipping Act, R.S.C. 1906, c. 113, consolidating previous separate Acts on Shipping including the Act on Coasting Trade as Part XVI.
- The Customs Tariff, R.S.C. 1906, c. 49.
- The Naturalization Act, R.S.C. 1906, c. 77.

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- The Customs Tariff, 1907. 1907, 6-7 Edw. VII, c. 11. Schedule A, items 589 and 590.
- An Act to Amend the Customs Act, 1908, 7-8 Edw. VII, c. 19, s. 2.
- An Act to Amend the Canada Shipping Act, 1908, 7-8 Edw. VII, c. 64.
- The Naturalization Act, 1914. 1914, 4-5 Geo. V, c. 44.
- The Special War Revenue Act, 1915. 1915, 5 Geo. V, c. 8.
- An Act to Amend the Special War Revenue Act, 1915. 1920, 10-11 Geo. V, c. 71, s. 2.
- An Act to Amend the Special War Revenue Act, 1915. 1921, 11-12 Geo. V, c. 50, s. 1.
- An Act to Amend the Canada Shipping Act, 1923. 1923, 13-14 Geo. V, c. 36.
- The Inland Water Freight Rates Act, 1923. 1923, 13 and 14 Geo. V, c. 48.
- An Act to Amend the Canada Shipping Act, 1924, 14-15 Geo. V, c. 11.
- An Act to Amend The Inland Water Freight Rates Act, 1923. 1924, 14-15 Geo. V, c. 49.
- The following chapters of The Revised Statutes of Canada, 1927:
- The Canada Shipping Act, c. 186, Part XVI.
 - The Naturalization Act, c. 138.
 - The Special War Revenue Act, c. 179, Schedule III.
 - The Customs Act, c. 42.
 - The Customs Tariff, c. 44.
 - The Inland Water Freight Rates Act, c. 208.
- An Act Respecting the Department of National Revenue 1927, 17 Geo. V, c. 34.
- An Act to Amend the Income War Tax Act, 1928, 18-19 Geo. V, c. 12.
- The British Commonwealth Merchant Shipping Agreement. Printed statutes of 1932, Prefix p. IX.
- The Canada Shipping Act, 1934, 24-25 Geo. V, c. 44, Part XIII.
- The Transport Act, 1938, 2 Geo. VI, c. 53.
- An Act to Amend The Transport Act, Statutes of 1944-45, 8-9 Geo. VI, c. 25.
- The Canadian Citizenship Act, 1946, 10 Geo. VI, c. 15.
- The Canadian Maritime Commission Act, 1947, 11 Geo. VI, c. 52.
- An Act to Amend the Canada Shipping Act, 1934. 1948, 11-12 Geo. VI, c. 35, s. 52.
- Canadian Vessel Construction Assistance Act, 1949 (2nd Session), 13 Geo. VI (2nd Session), c. 43.
- An Act to Approve the Terms of Union of Newfoundland with Canada, 1949, 13 Geo. VI, c. 1, Term 32.
- An Act to Amend the Canada Shipping Act, 1950, 14 Geo. VI, c. 26, s. 5.
- The following chapters of the Revised Statutes of Canada 1952 dealing with aspects of Coasting Trade and Shipbuilding and Repairing:
- The Canada Shipping Act, c. 29, Part XIII.
 - The Transport Act, c. 271.
 - The Customs Act, c. 58, ss. 54 and 273.
 - The Customs Tariff, c. 60, Schedule A, items 440 and 440a.
 - The Excise Tax Act, c. 100, Schedule III.
 - The Canadian Citizenship Act, c. 33.
 - The Inland Water Freight Rates Act, c. 153.
 - The Income Tax Act, c. 148, s. 10 (1) (c).
 - The Canadian Vessel Construction Assistance Act, c. 43.
 - The Maritime Freight Rates Act, c. 174.
- An Act to Amend the Canadian Vessel Construction Assistance Act, 1952-53, 1-2 Eliz. II, c. 14.

An Act to Amend the Department of Transport Act, 1954, 2-3 Eliz. II, c. 30, s. 6A.
Transport Control Regulations O in C P.C. 1954-807 of June 1, 1954, Canada Gazette.
Part II, p. 499, S.R.O./54-213.

An Act to Amend the Navigable Waters Protection Act, 1954, 2-3 Eliz. II, c. 37, Great
Lakes Seamen Security Regulations, O in C P.C. 1954-862 of June 10, 1954, Canada
Gazette Part II, 1954, p. 530; S.R.O./54-235.

Ship Construction Drawback Regulations, O in C P.C. 1954-835 of June 3, 1954, Canada
Gazette Part II, 1954, p. 512, S.R.O./54-220—under section 273 (k) of Customs Act.

An Act to Amend the Transport Act, 1955, 3 and 4 Eliz. II, c. 59.

APPENDIX VIII

British Commonwealth Merchant Shipping Agreement

Signed at London on 10th December, 1931.

His Majesty's Governments in the United Kingdom of Great Britain and Northern Ireland, Canada, the Commonwealth of Australia, New Zealand, the Union of South Africa, the Irish Free State and Newfoundland, having considered the report of the Conference on the Operation of Dominion Legislation and Merchant Shipping Legislation, 1929, undertake to propose any necessary legislation and take such other steps as may be required for the purpose of giving full effect to the provisions of the present Agreement with regard to Merchant Shipping.

- Part I — Common Status.
- Part II — Standards of Safety.
- Part III — Extra-territorial Operation of Laws.
- Part IV — Equal Treatment.
- Part V — Ships' Articles, Internal Discipline, and Engagement and Discharge of Seamen.
- Part VI — Certificates of Officers.
- Part VII — Shipping Enquiries.
- Part VIII — Relief and Repatriation of Seamen; Wages and Effects of deceased Seamen.
- Part IX — Offences on Board Ship.
- Part X — General.

Article 1.—In this agreement, unless the context otherwise requires, the following expression has the meaning hereby assigned to it, that is to say:—

“Part of the Commonwealth” means any Part of the British Commonwealth of Nations the Government of which is a party to this Agreement.

PART I

Common Status

Common Qualifications

Article 2.—(1) No ship shall be registered in any port within the British Commonwealth so as to acquire the status and recognition mentioned in paragraph (2) of this Article unless it is owned wholly by persons of the following description, namely:—

- (a) Persons recognized by law throughout the British Commonwealth of Nations as having the status of natural born British subjects;
- (b) Persons naturalized by or in pursuance of the law of some part of the British Commonwealth;
- (c) Persons made denizens by letters of denization; and
- (d) Bodies corporate established under and subject to the law of some part of the British Commonwealth and having their principal place of business within the British Commonwealth.

(2) Every ship so owned and duly registered within the British Commonwealth shall possess a common status for all purposes and shall be entitled to the recognition usually accorded to British ships.

Registry

Article 3.—The laws, regulations, forms and procedure relating to the matters following, that is to say:—

Obligation to Register;
Certificate of Registry;
Transfer and Transmissions;
Mortgages;
Certificates of Mortgage and Sale;
Name of Ship;
Registry of Alterations, Registry Anew, and Transfer of Registry;
Incapacitated Persons;
Trusts and Equitable Rights;
Liability of Beneficial Owner;
Managing Owner;
Declarations, Inspection of Register and Fees;
Returns, Evidence and Forms;
Forgery and False Declarations;
Measurement of Ship and Tonnage;

shall be substantially the same throughout the British Commonwealth and so far as possible be based on Part 1 of the Merchant Shipping Act, 1894.

Article 4.—In order that there may be a complete list of ships registered in all parts of the British Commonwealth for statistical purposes, particulars (such as the name of the ship, the registered number, the port to which she belongs, the name of the registered owner, and the tonnage) relating to all ships registered at their ports, will be forwarded by the Administration of each Part of the Commonwealth at convenient intervals to the Registrar General of Shipping and Seamen in London. Copies of the complete list shall be forwarded annually to the Administration of each Part of the Commonwealth.

National Colours

Article 5.—It being recognized that the proper national colours for all ships registered in any Part of the Commonwealth shall be such as may be determined by the Government of that Part, each Part of the Commonwealth undertakes to prohibit under penalty (a) the use by ships registered in that Part of any national colours other than those determined for those ships; (b) the hoisting on board any ship registered in that Part of colours proper to a ship of war or resembling any of those colours, without proper warrant.

PART II

Standards of Safety

Article 6.—While each Part of the Commonwealth will from time to time determine the standards with which its ships shall be required to comply in all matters relating to safety, every endeavour will be made to preserve uniformity and to maintain the standards at present in force.

Article 7.—Each Government which proposes to make an alteration of substance in these standards will give as long notice as practicable to the other Governments of the proposed alteration and of the reasons for it.

Article 8.—Subject to the provisions of Part IV, nothing in this Agreement affects the right of each Part to apply to any ship trading to its ports its regulations regarding the safety of ships, their crews and passengers, except in so far as the ship complies with regulations accepted by the Part as equivalent to its own regulations.

PART III

Extra-Territorial Operation of Laws

Article 9.—Save as otherwise specially provided in this Agreement, the laws relating to merchant shipping in force in one Part of the Commonwealth shall not be made to apply with extra-territorial effect to ships registered in another Part unless the consent of that other Part of the Commonwealth has been previously obtained:—

Provided that nothing contained in this Article shall be deemed to restrict the power of each Part of the Commonwealth to regulate the coasting trade, sea fisheries and fishing industry of that Part.

PART IV

Equal Treatment

Article 10.—Each Part of the British Commonwealth agrees to grant access to its ports to all ships registered in the British Commonwealth on equal terms and undertakes that no laws or regulations relating to seagoing ships at any time in force in that Part shall apply more favourably to ships registered in that Part, or to the ships of any foreign country, than they apply to any ship registered in any other Part of the Commonwealth.

Article 11.—While each Part of the British Commonwealth may regulate its own coasting trade, it is agreed that any laws or regulations from time to time in force for that purpose shall treat all ships registered in the British Commonwealth in exactly the same manner as ships registered in that Part, and not less favourable in any respect than ships of any foreign country.

Article 12.—Nothing in the present Agreement shall be deemed—

(i) to derogate from the right of every Part of the Commonwealth to impose customs tariff duties on ships built outside that Part: or

(ii) to restrict the right of the Government of each Part of the Commonwealth to give financial assistance to ships registered in that Part or its right to regulate the sea fisheries of that Part.

PART V

Ships' Articles

Internal Discipline and Engagement and Discharge of Seamen.

Article 13.—The form and contents of ships' articles if first opened in a Part of the Commonwealth, shall be those prescribed by the law of that Part, and if first opened elsewhere than within the British Commonwealth, shall be those prescribed by the law of the Part in which the ship is registered.

Article 14.—The powers and duties with respect to discipline on board a ship registered within the British Commonwealth shall, in so far as they are not derived from the ship's articles, be those made and provided by the laws and regulations in force in the Part of the Commonwealth in which the ship is registered.

Provided that if and so long as a ship, registered in one Part of the Commonwealth, is engaged wholly or mainly in the coasting trade of another Part, the powers and duties with respect to such discipline may be those made and provided by the laws and regulations in force in that other Part.

Provided also that in the case of a ship which is trading from a Part of the Commonwealth in which the principal place of business of her owners is situated, and not trading to the Part of the Commonwealth in which she is registered, the powers and duties with respect to such discipline may be those made and provided by the laws and regulations in force in the former Part.

Article 15.—Provision shall be made by law in each Part of the Commonwealth that whenever a seamen or apprentice deserts in that Part from a ship registered in another Part, any Court exercising summary jurisdiction in the Part in which the seamen or apprentice has deserted, and any Justice or Officer of such Court shall, on the application of the master of the ship, aid in apprehending the deserter, and, for that purpose may, on information given on oath, issue a warrant for his apprehension, and on proof of the desertion, order him to be conveyed on board his ship or delivered to the master or mate of his ship, or to the owner of the ship or his agent, to be so conveyed.

PART VI

Certificates of Officers

Article 16.—The standards of qualification to be required of applicants for certificates of competency and of service shall so far as possible be equal and alike throughout the British Commonwealth, and shall not be lower than those at present established.

Article 17.—Subject to any special provisions that may be made by any Part of the Commonwealth as to the qualifications to be required of officers on ships engaged in its coasting trade, a valid certificate of competency or service granted by one Part of the Commonwealth will be recognized throughout the British Commonwealth as indicating that the holder is duly qualified accordingly when serving on board any ship registered in that Part.

PART VII

Shipping Enquiries

Article 18.—The Government of each Part of the Commonwealth agrees to assist the Governments of the other Parts by providing for officers to hold preliminary enquiries (including the taking of depositions) into casualties to ships registered in such other Parts.

Article 19.—No Government of any Part of the Commonwealth will cause a formal investigation to be held into a casualty occurring to a ship registered in another Part save at the request or with the consent of the Government of that Part in which the ship is registered.

Provided that this restriction shall not apply when a casualty occurs on or near the coasts of a Part of the Commonwealth or whilst the ship is wholly engaged in the coasting Trade of a Part of the Commonwealth.

Article 20.—In all Parts of the Commonwealth the laws and regulations relating to the matters following, namely:—

- Constitution of Courts having jurisdiction to hold formal investigations;
- Holding of such Courts with the assistance of Assessors;
- Classification of Assessors according to their qualifications;
- Selection of Assessors according to the nature of the questions to be raised;
- Notice of investigation and the service thereof;
- Opportunity to be given to any person whose conduct may be impugned of making a defence;
- Procedure on the hearing;
- Rehearings and Appeals;

shall be, so far as possible, alike, and shall be based upon the provisions relating to formal investigations contained in Part VI of the Merchant Shipping Act, 1894, and the Shipping Casualties and Appeals and Rehearings Rules, 1923, made pursuant thereto.

Provided that

- (1) the Administration of that Part of the Commonwealth in which a formal investigation is held shall alone be competent to order a rehearing thereof;

(2) an appeal from a decision of a Court of formal investigation shall lie to a Court in the Part of the Commonwealth in which the formal investigation was held and that Court shall be similar in its constitution and jurisdiction to a Divisional Court of Admiralty in England;

(3) a Court of formal investigation shall be empowered to cancel or suspend a certificate of competency or service granted by the Administration of another Part of the Commonwealth so only as to effect its validity within the jurisdiction of the Part in which the investigation is held, but the Administration by which the certificate was granted may adopt such cancellation or suspension.

Article 21.—Provisions shall be in force in each Part of the Commonwealth similar, so far as possible, to those contained in Part VI of the Merchant Shipping Act, 1894, relating to the special enquiry that may be held when there is reason to believe that any master, mate, or certificated engineer is from incompetency or misconduct unfit to discharge his duties.

Provided that the power of a Court holding such enquiry to cancel or suspend a certificate of competency or service granted by a Part of the Commonwealth other than that in which the enquiry is held shall be similar to the power of a Court of formal investigation under the last preceding Article.

PART VIII

Relief and Repatriation of Seamen Wages and Effects of Deceased Seamen

Article 22.—A scheme shall be drawn up to which each Part of the Commonwealth shall give legislative effect, under which provision shall be made:—

(a) for the relief and repatriation of seamen belonging to any Part of the Commonwealth who may be found in distress or left behind in any other Part or in places abroad, and for defraying the expenses;

(b) for payment of the expenses of medical attendance, maintenance, burial and repatriation in case of injury or illness of seamen;

(c) for dealing with the effects and wages of seamen who are left behind or die in a port outside the Part of the Commonwealth to which they belong;

(d) for the recovery from the owner of the ship in proper cases of any expenses incurred by the Administration of any Part of the Commonwealth in the matters referred to in paragraphs (a) and (b).

PART IX

Offences on Board Ship

Article 23.—Reciprocal arrangements shall be made for conferring jurisdiction on the lines of Section 686 of the Merchant Shipping Act, 1894, with respect to offences committed on board ships registered in any Part of the Commonwealth.

PART X

General

Article 24.—The present Agreement shall come into operation on the tenth day of December, 1931, and shall continue in full force for a period of five years and thereafter until the Government of any Part of the Commonwealth gives notice of intention to withdraw therefrom or from any Article thereof. A notice of withdrawal, if sent to the Governments of every other Part of the Commonwealth, shall take effect as regards the Part giving the notice to the extent therein specified at the expiration of twelve months from the date of its despatch, but shall not otherwise affect the continuance in full force of the present Agreement.

Article 25.—The present Agreement may be varied at any time during the continuance thereof by common accord. Proposals for variation shall be sent by the Government of the Part proposing the variation, to the Government of the United Kingdom, to be circulated to the Governments of the other Parts of the Commonwealth, who will consider the proposals and endeavour to agree upon the acceptance of the variation with or without amendment. If a common accord is reached with respect to any proposed variation the present Agreement shall be varied accordingly.

Article 26.—A conference to consider any matter the subject of the present Agreement or any other matter relating to Merchant Shipping which the Government of any Part of the Commonwealth considers to be of common interest, may be called at any time at the instance of the Governments of any three Parts of the Commonwealth.

Article 27.—This Agreement shall apply to all territories administered under the authority of the Government of any Part of the Commonwealth and to ships registered there, or in any foreign port of registry, and fulfilling the requirements as to ownership set out in Article 2 (1).

Signed at London this tenth day of December, 1931.

On behalf of

His Majesty's Government in the United Kingdom of
Great Britain and Northern Ireland

—

J. H. Thomas.

His Majesty's Government in Canada

—

G. H. Ferguson.

His Majesty's Government in the Commonwealth of
Australia

—

Granville Ryrie.

His Majesty's Government in New Zealand

—

T. M. Wilford.

His Majesty's Government in the Union of
South Africa

—

C. T. de Water.

His Majesty's Government in the Irish Free State

—

John W. Dulanty.

His Majesty's Government in Newfoundland

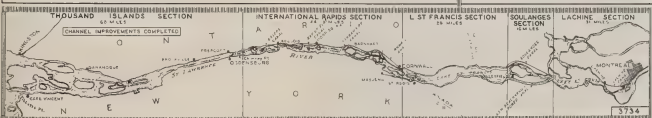
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Morris.

APPENDIX IX

General Plan of Great Lakes and St. Lawrence River

Facing Plate



APPENDIX X

CANADIAN MARITIME COMMISSION

Canadian Merchant Fleet

(December 31, 1956)

(Vessels of 1,000 Gross tons and over)

	No.	Gross Tons	Deadweight Tons
OCEAN-GOING FLEET			
War-built dry cargo ships			
10,000-tonners	5	35,872	50,968
4,700-tonners	6	17,650	27,360
Other dry cargo ships	7	36,391	42,760
	18	89,913	121,088
Tankers	8	96,252	148,915
	26	186,165	270,003
COASTWISE TRADING FLEET			
Passenger vessels and dry cargo vessels ...	55	167,732	82,410
Tankers	8	19,690	26,921
	63	187,422	109,331
GREAT LAKES FLEET			
Passenger vessels	5	13,080	5,710
Vessels limited to operations above the St. Lawrence canals:			
Dry cargo vessels	69	467,474	728,667
Tankers	2	25,233	36,810
	71	492,707	765,477
Vessels capable of traversing the St. Lawrence canals:			
Dry cargo vessels	156	309,820	460,019
Tankers	37	71,969	105,200
	193	381,789	565,219
SUMMARY OF CANADIAN-FLAG MERCHANT FLEET			
Passenger vessels and dry cargo vessels ...	303	1,048,019	1,397,894
Tankers	55	213,144	317,846
	358	1,261,163	1,715,740
CANADIAN VESSELS ON THE UNITED KINGDOM REGISTER UNDER TRANSFER ARRANGEMENTS			
10,000-tonners	82	585,806	851,774
4,700-tonners	3	8,656	13,872
Ore carriers	2	42,210	62,000
Other dry cargo vessels	3	16,672	21,358
	90	653,344	949,004

Royal Commission on Coasting Trade

Ocean-going CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER Canadian Flag OCEAN-GOING FLEET (Dec. 31, 1956)

	Tonnage		Draft	Speed	Fuel	Built ¹	
	Gross	Deadw't				Year	Country
DRY CARGO VESSELS							
Canadian National (West Indies) Steamships Limited, 384 St. James Street West, Montreal, Quebec							
<i>Canadian Challenger</i>	6,745	7,500	25.8	14.0	†	1946	Canada
<i>Canadian Conqueror</i>	2,930	4,532	20.9	10.0	*	1945	Canada <i>d</i>
<i>Canadian Constructor</i>	6,745	7,452	25.8	14.0	†	1946	Canada
<i>Canadian Cruiser</i>	6,746	7,460	25.8	14.0	†	1946	Canada
<i>Canadian Highlander</i>	2,966	4,532	20.9	10.0	*	1945	Canada <i>d</i>
<i>Canadian Leader</i>	2,930	4,532	20.9	10.0	*	1945	Canada <i>d</i>
<i>Canadian Observer</i>	2,967	4,532	20.9	10.0	*	1945	Canada <i>d</i>
<i>Canadian Victor</i>	2,963	4,532	20.9	10.0	*	1945	Canada <i>d</i>

Clarke Steamship Company Limited,
Canada Cement Building,
Phillips Square,
Montreal, Quebec

<i>Gulfport</i>	2,836	3,430	19.9	10.0	*	1943	Germany
<i>Novaport</i>	2,828	3,475	19.9	10.0	*	1944	Germany

Dominion Shipping Company Limited,
Sydney, Nova Scotia

<i>Arthur Cross</i>	7,188	10,130	27.0	10.0	§	1944	Canada <i>ns</i>
<i>Louisburg</i>	7,183	10,130	27.0	10.0	§	1943	Canada <i>ns</i>
<i>Wabana</i>	7,179	10,130	27.0	10.0	§	1943	Canada <i>ns</i>

Markland Shipping Company Limited,
Liverpool, N.S.

<i>Liverpool Packet</i>	2,894	4,700	20.8	10.0	§	1945	Canada <i>rg</i>
<i>Liverpool Rover</i>	4,454	6,200	24.3	10.0	*	1929	U.K.
<i>Markland</i>	6,037	7,243	24.1	12.0	*	1953	U.K.
<i>Vinland</i>	7,160	10,268	26.9	10.5	*	1944	Canada <i>c</i>

Navico Shipping Company Limited,
410 St. Nicholas St.,
Montreal, Quebec

<i>Point Aconi</i>	7,162	10,310	27.7	10.0	*	1944	Canada <i>v</i>
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TANKERS

Andros Shipping Company Limited,
200 St. James St.,
Montreal, Quebec

<i>Andros Fortune</i>	17,847	28,070	34.3	16.5	*	1954	Canada
<i>Andros Venture</i>	17,845	28,070	34.3	16.5	*	1953	Canada

† diesel * bunker oil § coal

¹Code letters indicating class of ex "Park" ships:

c Canadian
d Dominion

g Grey
ns North sands

rg Revised grey
v Victory

**CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER Ocean-going
OCEAN-GOING FLEET (Dec. 31, 1956) (Concl.) Canadian Flag**

	Tonnage		Draft Feet	Speed Knots	Fuel	Built ¹	
	Gross	Deadw't				Year	Country
Brunswick Motors Limited, P.O. Box 550, Saint John, N.B.							
<i>Irvingdale</i>	7,240	10,232	27.8	10.0	*	1943	Canada <i>v</i>
Deep Sea Tankers Limited, 25 Adelaide St. E., Toronto, Ont.							
<i>Paloma Hills</i>	10,632	16,551	30.1	14.3	*	1945	U.S.A.
<i>Pinnacles</i>	10,641	16,538	30.1	14.3	*	1944	U.S.A.
<i>Rincon Hills</i>	10,635	16,514	30.1	14.3	*	1945	U.S.A.
Imperial Oil Limited, Marine Division, 56 Church Street, Toronto 1, Ont.							
<i>Imperial Edmonton</i>	10,702	16,465	30.2	14.6	*	1944	U.S.A.
<i>Imperial Toronto</i>	10,710	16,475	30.2	14.6	*	1944	U.S.A.

**CANADIAN-OWNED OCEAN-GOING VESSELS OF 1,000 GROSS TONS AND OVER ON THE UNITED KINGDOM REGISTER Ocean-going
UNDER TRANSFER ARRANGEMENTS (Dec. 31, 1956) U.K. Flag**

Tonnage			Built ¹				
Gross Deadw't			Draft	Speed	Fuel	Year	Country
			Feet	Knots			
Acadia Overseas Freighters Limited, c/o I. H. Mathers & Son Limited, Foot of Duke Street, Halifax, Nova Scotia			Counties Ship Management Company Limited, 9 St. Helen's Place, London, E.C.3.				
<i>Denmark Hill</i>	7,150	10,287	26.9	10.0	*	1943	Canada <i>ns</i>
<i>Malden Hill</i>	7,168	10,290	26.9	10.0	*	1943	Canada <i>ns</i>
<i>Streatham Hill</i>	7,130	10,210	27.0	10.0	*	1943	Canada <i>ns</i>
Acadia Overseas Freighters (Halifax) Ltd., c/o I. H. Mathers & Son Limited, Foot of Duke Street, Halifax, Nova Scotia			Counties Ship Management Company Limited, 9 St. Helen's Place, London, E.C.3.				
<i>Muswell Hill</i>	7,131	10,384	27.0	10.0	*	1943	Canada <i>ns</i>
<i>Notting Hill</i>	7,150	10,330	27.0	10.0	*	1943	Canada <i>ns</i>
<i>Tulse Hill</i>	7,120	10,244	27.0	10.0	*	1943	Canada <i>ns</i>
<i>Wembley Hill</i>	7,150	10,450	27.0	10.0	*	1943	Canada <i>ns</i>

† diesel * bunker oil ‡ coal

¹Code letters indicating class of ex "Park" ships:

c Canadian
d Dominion

g Grey
ns North sands

rg Revised grey
v Victory

Royal Commission on Coasting Trade

Ocean-going U.K. Flag CANADIAN-OWNED OCEAN-GOING VESSELS OF 1,000 GROSS TONS AND OVER ON THE UNITED KINGDOM REGISTER UNDER TRANSFER ARRANGEMENTS (Dec. 31, 1956) (*Con.*)

	Tonnage		Draft	Speed	Fuel	Built ¹	
	Gross	Deadw't				Year	Country
Argonaut Navigation Company, c/o Messrs. Peat, Marwick, Mitchell & Co., P.O. Box 550, Montreal, Quebec				Feet Knots			
							A. Lusi & Company, United Dominions House, Eastcheap, London, E.C.3.
<i>Argobec</i>	7,138	10,240	26.9	10.0	*	1943	Canada <i>ns</i>
<i>Argofax</i>	7,187	10,700	27.7	10.0	*	1943	Canada <i>v</i>
<i>Argojohn</i>	7,159	10,775	27.7	10.0	*	1943	Canada <i>v</i>
<i>Argovan</i>	7,163	10,700	27.7	10.0	*	1943	Canada <i>v</i>
Black Lion Steamship Company Limited, c/o I. H. Mathers & Son Limited, Foot of Duke Street, Halifax, Nova Scotia							Bray Shipping Company Limited, 101 Leadenhall Street, London, E.C.3.
<i>Bembridge Hill</i>	7,138	10,384	27.0	10.0	*	1944	Canada <i>ns</i>
Bristol City Line (Canada) Limited, 315 St. Sacrement Street, Montreal 1, Quebec							Bristol City Line of Steamships, Limited, 129 Cumberland Road, Bristol
<i>Montreal City</i>	7,145	9,660	26.5	10.5	*	1945	Canada <i>c</i>
Canadian Hellenic Enterprises Limited, 2060 Bleury Street, Montreal, Quebec							C. M. Los (London) Limited, Dashwood House, Old Broad Street, London, E.C.2.
<i>Darton</i>	7,122	10,330	27.0	10.0	*	1943	Canada <i>ns</i>
Canadian Tramp Shipping Company Limited, c/o Archibald & Cain, 132 St. James Street, West, Montreal, Quebec							Counties Ship Management Company Limited, 9 St. Helen's Place, London, E.C.3.
<i>East Hill</i>	7,112	10,349	27.0	10.0	*	1943	Canada <i>ns</i>
<i>West Hill</i>	7,132	10,290	26.9	10.0	*	1944	Canada <i>ns</i>
Elder Dempster Lines (Canada) Limited, 230 Hospital Street, Montreal 1, Quebec							Elder Dempster Lines, India Buildings, Water Street, Liverpool 2.
<i>Cabano</i>	7,218	10,270	26.9	10.0	*	1943	Canada <i>v</i>
<i>Cambray</i>	7,209	10,310	26.9	10.0	*	1944	Canada <i>v</i>
<i>Cargill</i>	7,216	10,270	26.9	10.0	*	1943	Canada <i>v</i>
<i>Chandler</i>	7,212	10,310	26.9	10.0	*	1944	Canada <i>v</i>
<i>Cottrell</i>	7,217	10,310	26.9	10.0	*	1944	Canada <i>v</i>

† diesel * bunker oil § coal

¹Code letters indicating class of ex "Park" ships:

c Canadian
d Dominion

g Grey
ns North sands

rg Revised grey
v Victory

CANADIAN-OWNED OCEAN-GOING VESSELS OF 1,000 GROSS TONS AND OVER ON THE UNITED KINGDOM REGISTER UNDER TRANSFER ARRANGEMENTS (Dec. 31, 1956) (*Con.*)

	Tonnage		Draft	Speed	Fuel	Built ¹	
	Gross	Deadw't				Year	Country
			Feet	Knots			
Fairview Overseas Freighters Limited, c/o I. H. Mathers & Son Limited, Foot of Duke Street, Halifax, Nova Scotia							
<i>Johnstar</i>	7,125	10,795	27.7	10.5	*	1942	Canada <i>ns</i>
<i>Nordicstar</i>	7,124	10,368	27.0	10.5	*	1943	Canada <i>ns</i>
<i>Peterstar</i>	7,119	10,850	27.7	10.5	*	1943	Canada <i>ns</i>
Falaise Steamship Company Limited, c/o I. H. Mathers & Son Limited, Foot of Duke Street, Halifax, Nova Scotia							
<i>Woldingham Hill</i>	7,113	10,226	27.0	10.0	*	1943	Canada <i>ns</i>
<i>Wynchwood Hill</i>	7,137	10,320	26.9	10.0	*	1943	Canada <i>ns</i>
Federal Commerce & Navigation Co. Ltd., 410 St. Nicholas Street, Montreal, Quebec							
<i>Federal Voyager</i>	7,140	10,750	27.7	10.5	*	1944	Canada <i>v</i>
Fort Erie Steamship Company Limited, c/o United Tramp Management Limited, 437 St. James Street, West, Montreal 1, Quebec							
<i>Maidenhead</i>	7,120	10,384	27.0	10.0	*	1943	Canada <i>ns</i>
Furness (Montreal) Limited, 315 St. Sacrement Street, Montreal 1, Quebec							
<i>Brazilian Prince</i>	7,158	9,300	26.9	10.5	*	1944	Canada <i>c</i>
Glenrock Shipping Company Limited, c/o Charbonneau & Murray, C.A., 437 St. James Street, West, Montreal 1, Quebec							
<i>Lord Tweedsmuir</i>	7,136	10,300	26.9	10.0	*	1943	Canada <i>ns</i>

† diesel * bunker oil ‡ coal

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c Canadian
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g Grey
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Royal Commission on Coasting Trade

Ocean-going U.K. Flag CANADIAN-OWNED OCEAN-GOING VESSELS OF 1,000 GROSS TONS AND OVER ON THE UNITED KINGDOM REGISTER UNDER TRANSFER ARRANGEMENTS (Dec. 31, 1956) (*Con.*)

	Tonnage		Draft	Speed	Fuel	Built ¹	
	Gross	Deadw't				Year	Country
Halifax Overseas Freighters Limited, c/o I. H. Mathers & Son Limited, Foot of Duke Street, Halifax, Nova Scotia			Feet	Knots			
			Counties Ship Management Company Limited, 9 St. Helen's Place, London, E.C.3.				
<i>Beech Hill</i>	7,150	10,290	26.9	10.0	*	1943	Canada ns
<i>Cedar Hill</i>	7,156	10,184	27.0	10.0	*	1944	Canada ns
<i>Elm Hill</i>	7,138	10,384	27.0	10.0	*	1943	Canada ns
<i>Fir Hill</i>	7,119	10,300	27.0	10.0	*	1944	Canada ns
<i>Maple Hill</i>	7,139	10,384	27.0	10.0	*	1943	Canada ns
<i>Mulberry Hill</i>	7,141	10,226	27.0	10.0	*	1944	Canada ns
<i>Oak Hill</i>	7,139	10,230	26.9	10.0	*	1943	Canada ns
<i>Pine Hill</i>	7,151	10,384	27.0	10.0	*	1943	Canada ns
<i>Poplar Hill</i>	7,127	10,384	27.0	10.0	*	1944	Canada ns
<i>Sycamore Hill</i>	7,124	10,384	27.0	10.0	*	1944	Canada ns
Iron Ore Transport Company Limited, 810 Cote de Liesse Road, Montreal, Quebec			C. T. Bowring & Company Limited, 52 Leadenhall Street, London, E.C.3.				
<i>Ruth Lake</i>	21,157	31,000	34.0	14.7	*	1956	U.K.
<i>Sept Iles</i>	21,053	31,000	33.9	15.5	*	1955	U.K.
Kawartha Steamship Company Limited, c/o Papachristidis Company, Limited, 28 St. James Street, West, Montreal 1, Quebec			Messrs. Nokomis (London) Limited, 23/24 Wormwood Street, London, E.C.2.				
<i>Grande Hermine</i>	7,151	10,270	27.8	10.0	*	1944	Canada ns
Kingsport Shipping Company Limited, 437 St. James Street, West, Montreal 1, Quebec			Camberley Steamship Company Limited, 9 Wormwood Street, London, E.C.2.				
<i>Kingsbridge</i>	7,142	10,372	27.7	10.0	*	1944	Canada ns
<i>Kingsmount</i>	7,132	10,310	26.9	10.0	*	1942	Canada ns
Laurentian Marine Company Limited, c/o Triton Steamship Company Limited, 485 McGill Street, Montreal, Quebec			Fernhill Steamship Company Limited, 24 Leadenhall Street, London, E.C.3.				
<i>Laurentian Forest</i>	7,144	10,310	27.0	10.0	*	1943	Canada ns
<i>Laurentian Valley</i>	7,148	10,310	27.7	10.0	*	1943	Canada ns

† diesel * bunker oil § coal

¹Code letters indicating class of ex "Park" ships:

c Canadian
d Dominion

g Grey
ns North sands

rg Revised grey
v Victory

CANADIAN-OWNED OCEAN-GOING VESSELS OF 1,000 GROSS TONS AND OVER ON THE UNITED KINGDOM REGISTER UNDER TRANSFER ARRANGEMENTS (Dec. 31, 1956) (Con.)

	Tonnage		Draft	Speed	Fuel	Built ¹	
	Gross	Deadw't				Year	Country
Laurentide Steamship Company Limited, c/o Papachristidis Company Limited, 28 St. James Street, West, Montreal 1, Quebec			Feet	Knots			
			Messrs. Nokomis (London) Limited, 23/24 Wormwood Street, London, E.C.2.				
<i>Petite Hermine</i>	7,131	10,340	27.7	10.0	*	1943	Canada <i>ns</i>
Megantic Freighters Limited, c/o Charbonneau & Murray, C.A., 437 St. James Street, West, Montreal 1, Quebec			J. P. Hadoulis, 6 Lloyd's Avenue, London, E.C.3.				
<i>Assimina K</i>	7,142	10,384	27.0	10.0	*	1943	Canada <i>ns</i>
Montship Lines Limited, 410 St. Nicholas Street, Montreal, Quebec			Messrs. Buries Markes, Limited, Plantation House, Mincing Lane, London, E.C.3.				
<i>Montclair</i>	1,008	1,450	17.8	13.0	†	1956	Canada
North River Freighters Limited, c/o Nordic Ship Management Limited, 1200 Sherbrooke Street, West, Montreal 1, Quebec			Ships Finance & Management Co. Ltd., Bevis Marks House, Bevis Marks, London, E.C.3.				
<i>Radnor</i>	7,133	10,330	27.7	10.0	*	1943	Canada <i>ns</i>
Northeastern Freighters Limited, c/o Charbonneau & Murray, C.A., 437 St. James Street, West, Montreal 1, Quebec			J. P. Hadoulis, 6 Lloyd's Avenue, London, E.C.3.				
<i>Commodore Grant</i>	7,131	10,384	27.0	10.0	*	1943	Canada <i>ns</i>
Nova Scotia Marine Enterprise Company Ltd., c/o Nordic Ship Management Limited, 1200 Sherbrooke Street, West, Montreal 1, Quebec			Counties Ship Management Co. Ltd., 9 St. Helen's Place, London, E.C.3.				
<i>Akti Hill</i>	7,123	10,290	27.0	10.0	*	1944	Canada <i>ns</i>
<i>Alendi Hill</i>	7,121	10,230	27.0	10.0	*	1944	Canada <i>ns</i>
<i>Fry Hill</i>	7,132	10,250	27.0	10.0	*	1943	Canada <i>ns</i>
<i>Marina Hill</i>	7,151	10,330	27.0	10.0	*	1943	Canada <i>ns</i>

† diesel * bunker oil § coal

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v Victory

Royal Commission on Coasting Trade

Ocean-going U.K. Flag CANADIAN-OWNED OCEAN-GOING VESSELS OF 1,000 GROSS TONS AND OVER ON THE UNITED KINGDOM REGISTER UNDER TRANSFER ARRANGEMENTS (Dec. 31, 1956) (*Con.*)

	Tonnage		Draft	Speed	Fuel	Built ¹	
	Gross	Deadw't				Year	Country
Novor Shipping Company Limited, c/o Messrs. Campbell, Glendinning & Dever, Halifax, Nova Scotia			Feet	Knots			
			Chandris (England) Limited, 7 St. Helen's Place, London, E.C.3.				
<i>Novor Isobel</i>	7,058	10,385	27.0	10.5	*	1943	Canada <i>ns</i>
<i>Novor Jenny</i>	7,135	10,340	27.0	10.5	*	1943	Canada <i>ns</i>
<i>Novor Rita</i>	7,133	10,385	27.0	10.5	*	1943	Canada <i>ns</i>
Othrys Shipping Company Limited, c/o United Tramp Management Limited, 437 St. James Street West, Montreal 1, Quebec			Marcou & Sons (Shipbrokers) Ltd., 15 Gravel Lane, London				
<i>Othrys</i>	7,128	10,384	27.0	10.0	*	1943	Canada <i>ns</i>
Ottawa Steamship Company Limited, c/o United Tramp Management Limited, 437 St. James Street, West, Montreal, Quebec			Coulouthros Limited, 24 Leadenhall Street, London, E.C.3.				
<i>Amersham Hill</i>	7,134	10,384	27.0	10.0	*	1943	Canada <i>ns</i>
<i>Andover Hill</i>	7,118	10,384	27.0	10.0	*	1943	Canada <i>ns</i>
<i>Arundel Hill</i>	7,119	10,384	27.0	10.0	*	1943	Canada <i>ns</i>
Rex Shipping Company Limited, c/o I. H. Mathers & Son Limited, Foot of Duke Street, Halifax, Nova Scotia			Hadjilias & Company Limited, 7-8 Bury Court, London, E.C.3.				
<i>Brookhurst</i>	7,149	10,284	26.9	10.0	*	1944	Canada <i>ns</i>
<i>Fernhurst</i>	7,131	10,350	27.7	10.0	*	1942	Canada <i>ns</i>
<i>Midhurst</i>	7,132	10,330	27.0	10.0	*	1942	Canada <i>ns</i>
<i>Oakhurst</i>	7,120	10,236	27.0	10.0	*	1943	Canada <i>ns</i>
Runnymede Steamship Company Limited, c/o Nordic Ship Management Limited, 1200 Sherbrooke Street, West, Montreal, Quebec			Ships Finance & Management Company Ltd., Bevis Marks House, Bevis Marks, London, E.C.3.				
<i>Lake Michigan</i>	7,139	10,384	27.0	10.0	*	1944	Canada <i>ns</i>
Saguenay Terminals Limited, Terminal Centre Building, 1060 University Street, Montreal 3, Quebec			John Kilgour & Company Limited, Gresham House, 24 Old Broad Street, London, E.C.2.				
<i>Sundale</i>	2,884	4,624	21.3	10.0	*	1944	Canada <i>g</i>

† diesel * bunker oil § coal

¹Code letters indicating class of ex "Park" ships:

c Canadian

d Dominion

g Grey

ns North sands

rg Revised grey

v Victory

CANADIAN-OWNED OCEAN-GOING VESSELS OF 1,000 GROSS TONS AND OVER ON THE UNITED KINGDOM REGISTER UNDER TRANSFER ARRANGEMENTS (Dec. 31, 1956) (Con.)

	Tonnage		Draft	Speed	Fuel	Built ¹	
	Gross	Deadw't				Year	Country
Saguenay Terminals Limited (<i>Concl.</i>)			Feet	Knots			
<i>Sundial</i>	2,877	4,624	21.3	9.7	*	1944	Canada <i>g</i>
<i>Sunjarv</i>	7,155	10,713	27.7	10.0	*	1944	Canada <i>c</i>
<i>Sunjewel</i>	7,150	10,713	27.7	10.0	*	1945	Canada <i>c</i>
<i>Sunkirk</i>	7,157	10,713	27.7	10.0	*	1944	Canada <i>c</i>
<i>Sunmont</i>	7,148	10,713	27.7	10.0	*	1945	Canada <i>c</i>
<i>Sunprince</i>	2,895	4,624	21.3	10.0	*	1945	Canada <i>g</i>
<i>Sunrell</i>	7,155	10,638	27.7	10.0	*	1943	Canada <i>v</i>
<i>Sunvalley</i>	7,155	10,716	27.7	10.0	*	1943	Canada <i>v</i>
<i>Sunwhit</i>	7,158	10,713	27.7	10.0	*	1944	Canada <i>c</i>
Seaboard Owners Limited, c/o Triton Steamship Company Limited, 485 McGill Street, Montreal, Quebec							Goulandris Brothers Limited, 61 St. Mary Axe, London, E.C.3.
<i>Seaboard Enterprise</i>	7,190	10,750	27.7	10.0	*	1944	Canada <i>v</i>
Triton Steamship Company Limited, 485 McGill Street, Montreal, Quebec							Okeanis Shipping Company Limited, 61 St. Mary Axe, London, E.C.3.
<i>Tricape</i>	7,136	10,310	27.0	10.0	*	1943	Canada <i>v</i>
<i>Tridale</i>	7,165	10,240	27.0	10.0	*	1943	Canada <i>ns</i>
<i>Triland</i>	7,138	10,380	27.0	10.0	*	1944	Canada <i>ns</i>
Vancouver Oriental Line Limited, c/o I. H. Mathers & Son Limited, Foot of Duke Street, Halifax, Nova Scotia							Counties Ship Management Company Limited, 9 St. Helen's Place, London, E.C.3.
<i>Harrow Hill</i>	7,133	10,320	27.0	10.0	*	1943	Canada <i>ns</i>
<i>Sudbury Hill</i>	7,140	10,430	26.9	10.0	*	1943	Canada <i>ns</i>
Western Canada Steamship Company Ltd., Marine Building, 355 Burrard Street, Vancouver, B.C.							Lyle Shipping Company Limited, 36 Renfield Street, Glasgow, C.2.
<i>Lake Pennask</i>	7,829	9,954	26.9	12.5	†	1953	U.K.
<i>Table Bay</i>	7,161	10,750	27.7	10.0	*	1944	Canada <i>v</i>

† diesel * bunker oil § coal

¹Code letters indicating class of ex "Park" ships:

c Canadian
d Dominion

g Grey
ns North sands

rg Revised grey
v Victory

Royal Commission on Coasting Trade

Ocean-going U.K. Flag CANADIAN-OWNED OCEAN-GOING VESSELS OF 1,000 GROSS TONS AND OVER ON THE UNITED KINGDOM REGISTER UNDER TRANSFER ARRANGEMENTS (Dec. 31, 1956) (Concl.)

	Tonnage		Draft	Speed	Fuel	Built	
	Gross	Deadw't				Year	Country
			Feet	Knots			
Western Canada Steamship Company Ltd. (Concl.)			Sir R. Ropner & Company Limited, 140 Coniscliffe Road, Darlington, Durham				
<i>Lake Atlin</i>	7,835	9,954	26.9	12.5	†	1953	U.K.
<i>Lake Kootenay</i>	7,167	10,710	27.7	10.0	*	1943	Canada <i>v</i>
<i>Walvis Bay</i>	7,147	10,705	27.7	10.0	*	1944	Canada <i>v</i>
Yamaska Steamship Company Ltd., c/o Hugessen, Macklaier, Chisholm, Smith & Davis, 507 Place d'Armes, Montreal, Quebec			Lambert Brothers Limited, 88 Leadenhall Street, London, E.C.3.				
<i>Yamaska</i>	7,151	10,384	27.0	10.0	*	1944	Canada <i>ns</i>

¹Code letters indicating class of ex "Park" ships:

c Canadian
d Dominion

g Grey
ns North sands

rg Revised grey
v Victory

Coastal (East) CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER COASTWISE TRADING FLEET (Dec. 31, 1956)

	Tonnage		Draft	Speed	Fuel	Built	
	Gross	Deadw't				Year	Country
			Feet	Knots			
ATLANTIC COAST							
PASSENGER VESSELS AND DRY CARGO VESSELS							
Ahern Shipping Limited, Room 3, 354 Youville Street, Montreal 1, Quebec							
<i>Wahcondah</i>	1,575	2,146	17.9	9.0	*	1903	U.K.
Canada Steamship Lines Limited, 759 Victoria Square, Montreal, Quebec							
<i>Richelieu</i>	5,528	500	16.5	18.0	*	1912/23	USA/Can
<i>St. Lawrence</i>	6,328	500	14.8	18.0	*	1927	Canada
<i>Tadoussac</i>	7,013	500	15.9	17.5	*	1928	Canada
Canadian National Railways, 360 McGill Street, Montreal, Quebec							
<i>Abegweit</i>	6,694	2,114	19.0	16.5	†	1947	Canada
<i>Baccalieu</i>	1,421	1,000	18.8	10.0	*	1940	U.K.
<i>Bar Haven</i>	1,138	850	16.5	10.0	*	1948	U.K.
<i>Bluenose</i>	6,419	4,500	16.5	18.0	†	1955	Canada

† diesel * bunker oil § coal

CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER Coastal (East)
COASTWISE TRADING FLEET (Dec. 31, 1956) (Con.)

	Tonnage		Draft	Speed	Fuel	Built	
	Gross	Deadw't				Year	Country
Canadian National Railways (Concl.)			Feet	Knots			
<i>Bonavista</i>	1,174	850	15.5	12.0	†	1956	U.K.
<i>Burgeo</i>	1,421	1,000	18.8	10.0	*	1940	U.K.
<i>Cabot Strait</i>	2,045	1,200	18.5	12.0	*	1947	U.K.
<i>Kyle</i>	1,055	900	17.8	10.0	§	1913	U.K.
<i>Nonia</i>	1,174	850	17.2	12.0	†	1956	U.K.
<i>Northern Ranger</i>	1,365	1,100	18.9	10.0	*	1936	U.K.
<i>Prince Edward Island</i>	2,795	1,190	19.3	15.0	*	1915	U.K.
<i>Random</i>	1,792	2,975	17.8	9.0	*	1921	Germany
<i>Springdale</i>	1,138	850	16.5	10.0	*	1948	U.K.
<i>William Carson</i>	8,273	1,880	19.3	16.5	†	1955	Canada
Canadian Pacific Railway Company, Windsor Station, Montreal, Quebec							
<i>Princess Helene</i>	4,055	1,500	16.0	17.0	*	1930	U.K.
Chebucto Steamship Limited, 50 Sackville Street, Halifax, Nova Scotia							
<i>Bedford II</i>	1,104	785	15.5	11.0	†	1943/47	Canada
<i>Belle Isle II</i>	1,529	1,394	16.6	12.0	†	1944/47	UK/Can.
Clarke Steamship Company Limited, Canada Cement Building, Phillips Square, Montreal, Quebec							
<i>North Coaster</i>	1,387	1,650	16.5	10.5	*	1946	Canada
<i>North Pioneer</i>	1,473	1,560	16.5	10.5	*	1945	Canada
<i>North Shore</i>	1,205	368	15.1	13.0	*	1943	Canada
Kent Line Limited, P.O. Box 1298, Saint John, N.B.							
<i>Irvingwood</i>	2,353	3,380	16.6	11.0	†	1952	Canada
<i>Rexton Kent</i>	1,088	716	15.5	12.0	†	1943/47	UK/Can.
Lake Shore Lines Limited, 755 1st Avenue, Lachine, Quebec							
<i>Island King II</i>	1,256	350	11.0	12.0	§	1911	Canada
Quebec North Shore and Labrador Railway Company, 810 Cote de Liesse Road, Montreal 9, Quebec							
<i>Easton</i>	1,756	2,650	16.1	10.4	§	1912	U.K.

† diesel * bunker oil § coal

Royal Commission on Coasting Trade

Coastal (East) CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER (West) COASTWISE TRADING FLEET (Dec. 31, 1956) (Con.)

	Tonnage		Draft	Speed	Fuel	Built	
	Gross	Deadw't				Year	Country
			Feet	Knots			
St. Charles Transportation Company Limited, 10 Boulevard des Capucins, Quebec City, Quebec							
<i>Frank J. Humphrey</i>	3,643	3,900	15.0	10.5	†	1943	U.S.A.
<i>Guy Bartholomew</i>	3,636	3,900	15.0	10.5	†	1943	U.S.A.
<i>R. A. McInnis</i>	3,645	3,900	15.0	10.5	†	1944	U.S.A.
<i>Robert McMichael</i>	3,633	3,900	15.0	10.5	†	1943	U.S.A.
TANKERS							
Gayport Shipping Limited, 20 College Street, Toronto, Ontario							
<i>Sea Transporter</i>	3,138	4,293	19.3	12.0	†	1945	U.S.A.
Imperial Oil Limited, Marine Division, 56 Church Street, Toronto, Ontario							
<i>Imperial Halifax</i>	3,734	5,168	22.0	12.2	†	1946	U.K.
<i>Imperial Sarnia</i>	4,947	6,750	21.4	12.0	*	1948/54	Canada
Irving Steamships Limited, 71 Dock Street, Saint John, N.B.							
<i>Seekonk</i>	1,136	1,400	13.1	9.0	†	1944	U.S.A.
Kent Line Limited, P.O. Box 1298, Saint John, N.B.							
<i>Irvinglake</i>	2,338	3,580	18.4	10.0	†	1943	Canada
PACIFIC COAST							
PASSENGER VESSELS AND DRY CARGO VESSELS							
Black Ball Ferries Limited, 814 Wharf Street, Victoria, B.C.							
<i>Chinook II</i>	4,979	900	13.0	18.0	†	1947	U.S.A.
<i>Kahloke</i>	3,911	715	13.0	18.0	†	1903/53	USA/Can
British Yukon Ocean Services Limited, 510 West Hastings Street, Vancouver, B.C.							
<i>Clifford J. Rogers</i>	3,000	4,000	17.8	12.3	†	1955	Canada

† diesel * bunker oil ‡ coal

CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER Coastal (West)
COASTWISE TRADING FLEET (Dec. 31, 1956) (Concl.)

	Tonnage		Draft	Speed	Fuel	Built	
	Gross	Deadw't				Year	Country
			Feet	Knots			
Canadian National Steamships, Foot of Main Street, Vancouver, B.C.							
<i>Canora</i>	2,383	1,500	15.5	10.0	*	1918	Canada
<i>Prince George</i>	5,812	1,050	17.5	16.0	*	1948	Canada
Canadian Pacific B.C. Coast Steamships, Victoria, B.C.							
<i>Princess Elaine</i>	2,125	632	11.5	18.0	*	1928	U.K.
<i>Princess Elizabeth</i>	5,251	775	15.8	16.0	*	1930	U.K.
<i>Princess Joan</i>	5,251	775	15.8	16.0	*	1930	U.K.
<i>Princess Louise</i>	4,032	1,210	16.2	16.5	*	1921	Canada
<i>Princess Marguerite</i>	5,911	985	15.6	23.5	*	1948	U.K.
<i>Princess of Nanaimo</i>	6,787	1,162	14.3	20.5	*	1951	U.K.
<i>Princess of Vancouver</i>	5,554	2,300	14.8	15.5	‡	1955	U.K.
<i>Princess Patricia</i>	5,911	985	15.6	23.5	*	1949	U.K.
<i>Queen of the North</i>	2,731	890	15.4	15.5	*	1928	U.K.
<i>Yukon Princess</i>	1,334	1,660	16.4	10.0	*	1946	Canada
Union Steamships Limited, Foot of Carrall Street, Vancouver, B.C.							
<i>Camosun</i>	1,835	913	16.0	13.0	*	1943	U.K.
<i>Cardena</i>	1,559	725	14.6	12.0	*	1923	U.K.
<i>Cassiar</i>	1,377	1,684	—	11.0	†	1946	Canada
<i>Catala</i>	1,476	720	12.6	12.9	*	1925	U.K.
<i>Chilcotin</i>	1,837	840	16.0	13.0	*	1943	U.K.
<i>Chilkoot</i>	1,336	1,625	—	12.0	*	1946	Canada
<i>Coquitlam</i>	1,883	906	16.0	13.0	*	1943	U.K.
<i>Lady Alexandra</i> (Laid Up)	1,396	600	8.8	14.5	*	1924	U.K.
TANKERS							
Imperial Oil Limited, Marine Division, 56 Church Street, Toronto 1, Ontario							
<i>Imperial Vancouver</i>	1,512	2,040	16.9	11.5	†	1938	Canada
Pacific Bulk Carriers Limited, 2285 Commissioner Street, Vancouver, B.C.							
<i>Pacific Wind</i>	1,561	2,000	14.1	10.6	†	1938	Canada
Standard Oil Company of B.C. Limited, 906 Marine Building, Vancouver, B.C.							
<i>Standard Service</i>	1,324	1,690	14.7	9.0	†	1923	U.S.A.

† diesel * bunker oil § coal ‡ Residual fuel oil in diesel engines

Royal Commission on Coasting Trade

Lakers CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER OPERATING ON THE GREAT LAKES (Dec. 31, 1956)

	Tonnage		Draft	Speed	Fuel	Built ¹	
	Gross	Deadw't				Year	Country
			Feet	M.p.h.			
PASSENGER VESSELS							
Canadian Pacific Railway Company, Windsor Station, Montreal, Quebec							
<i>Assiniboia</i>	3,925	2,400	17.6	16.0	*	1907	U.K.
<i>Keewatin</i>	3,856	2,400	17.6	16.0	§	1907	U.K.
Cayuga Navigation Company Limited, Suite 60, 330 Bay Street, Toronto, Ontario							
<i>Cayuga</i>	2,196	500	11.0	22.0	§	1907	Canada
Owen Sound Transportation Company Limited, 1101—1st Avenue, West, Owen Sound, Ontario							
<i>Norgoma</i>	1,435	200	13.0	12.0	§	1950	Canada
<i>Norisle</i>	1,668	210	12.8	12.0	§	1946	Canada
DRY CARGO VESSELS LIMITED TO OPERATIONS ABOVE THE ST. LAWRENCE CANALS							
Algoma Central Steamship Company Limited, Sault Ste. Marie, Ontario							
<i>Algocen</i>	6,904	9,800	20.4	11.0	§	1909	U.S.A.
<i>Algorail</i>	3,475	5,600	21.5	11.0	§	1901	U.S.A.
<i>Algosoo</i>	3,373	5,600	21.1	11.0	§	1901	U.S.A.
<i>Algosteel</i>	6,178	8,500	20.8	11.0	§	1907	U.S.A.
<i>Algoway</i>	3,785	6,000	20.8	11.0	§	1903	U.S.A.
<i>E. B. Barber</i>	8,619	13,046	21.9	17.0	*	1953	Canada
Beaconsfield Steamships Limited, 635 Common Street, Montreal, Quebec							
<i>Mohawk Deer</i>	4,423	7,000	—	11.0	§	1896	U.S.A.
Canada Steamship Lines Limited, 759 Victoria Square, Montreal, Quebec							
<i>Ashcroft</i>	7,726	14,100	22.2	11.5	§	1924	Canada
<i>Burlington</i>	4,959	8,300	20.3	11.5	§	1899	U.S.A.
<i>Collingwood</i>	4,545	6,300	20.8	11.0	§	1907	Canada pf
<i>Coverdale</i>	11,996	20,000	24.0	14.5	§	1949	Canada
<i>Donnacona</i>	8,611	16,900	21.0	—	§	1914	Canada
<i>Fort Henry</i>	5,729	8,420	23.8	16.0	*	1955	Canada pf
<i>Georgian Bay</i>	11,392	18,500	24.5	15.0	*	1954	Canada
<i>Gleneagles</i>	8,233	15,750	21.9	11.5	§	1925	Canada

† diesel * bunker oil § coal

¹For dry-cargo vessels, the following code letters indicate vessels other than bulk freighters:
pf package freighter § self-unloader

CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER **Lakers**
OPERATING ON THE GREAT LAKES (Dec. 31, 1956) (Con.)

	Tonnage			Draft Feet	Speed M.p.h.	Fuel	Built ¹	
	Gross	Deadw't	Year				Country	
Canada Steamship Lines Limited (<i>Concl.</i>)								
<i>Goderich</i>	5,667	10,700	—	11.5	§	1908	U.S.A.	
<i>Hagarty</i>	7,462	12,000	21.7	11.5	§	1914	Canada	
<i>Hochelaga</i>	11,997	20,000	24.0	12.5	§	1949	Canada	
<i>Lemoyne</i>	10,480	18,450	19.3	11.5	§	1926	Canada	
<i>Martin</i>	3,493	5,600	21.3	10.5	§	1901	U.S.A. <i>pf</i>	
<i>Midland Prince</i>	6,339	6,900	21.8	—	§	1907	Canada <i>su</i>	
<i>Prescott</i>	5,461	9,400	19.1	12.0	§	1903/34	USA/Can	
<i>R. O. Petman</i>	7,051	7,500	22.1	—	§	1908/40	Canada <i>su</i>	
<i>Renvoyle</i>	3,571	5,000	19.1	13.5	§	1925	UK/Can <i>pf</i>	
<i>Sir James Dunn</i>	12,434	21,000	23.8	13.8	*	1952	Canada	
<i>Stadacona</i>	9,181	15,750	21.9	12.0	§	1929	Canada	
<i>T. R. McLagan</i>	15,500	22,700	25.3	17.0	*	1954	Canada	
<i>Thunder Bay</i>	12,435	21,000	23.7	13.8	*	1952	Canada	
<i>Westmount</i>	7,392	12,000	21.7	11.5	§	1917	Canada	
Colonial Steamships Limited, 84 West Street, Port Colborne, Ontario								
<i>Bayton</i>	4,176	7,290	19.8	10.0	*	1904	U.S.A.	
<i>C. A. Bennett</i>	6,221	9,450	20.8	10.0	§	1908	U.S.A.	
<i>Everetton</i>	5,765	9,043	21.3	9.0	§	1908	U.S.A.	
<i>John E. F. Misener</i>	13,081	20,000	24.0	16.0	*	1950	Canada	
<i>John O. McKellar</i>	13,884	21,000	24.5	16.0	*	1952	Canada	
<i>Laketon</i>	4,423	7,560	19.7	10.0	*	1903	U.S.A.	
<i>Ralph S. Misener</i>	7,403	12,200	20.8	12.0	§	1922	Canada	
<i>Royalton</i>	7,164	12,600	21.3	12.0	§	1924	Canada	
<i>Scott Misener</i>	15,279	22,510	25.5	18.0	*	1954	Canada	
Lake Erie Coal Company Limited, Walkerville, Ontario								
<i>Alexander Leslie</i>	3,509	4,643	20.0	11.0	§	1901/20	U.S.A.	
Mohawk Navigation Company, 635 Common Street, Montreal, P.Q.								
<i>Captain C. D. Secord</i>	6,943	9,000	23.3	12.5	†	1900/19	U.S.A.	
<i>Golden Hind</i>	12,304	18,000	24.4	15.0	*	1952/54	Canada	
<i>Sir Thomas Shaughnessy</i>	5,846	9,000	—	10.5	§	1906	U.S.A.	
N. M. Paterson & Sons Limited, 276 St. James Street West, Montreal, Quebec								
<i>Altadoc</i>	4,266	6,300	20.3	10.0	§	1896	U.S.A.	
<i>Bricoldoc</i>	4,364	6,400	20.1	—	§	1902	U.S.A.	

† diesel * bunker oil § coal

¹For dry-cargo vessels, the following code letters indicate vessels other than bulk freighters:
pf package freighter *su* self-unloader

Royal Commission on Coasting Trade

Lakers CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER OPERATING ON THE GREAT LAKES (Dec. 31, 1956) (Con.)

	Tonnage		Draft Feet	Speed M.p.h.	Fuel	Built ¹	
	Gross	Deadw't				Year	Country
N. M. Paterson & Sons Limited (<i>Concl.</i>)							
<i>Canadoc</i>	4,581	7,100	20.9	—	§	1899	U.S.A.
<i>Fort Willdoc</i>	4,542	6,850	20.2	11.0	§	1900	U.S.A.
<i>Gaspedoc</i>	3,638	4,208	15.0	12.5	†	1944	U.S.A.
<i>Mantadoc</i>	4,466	6,964	20.0	—	§	1903	U.S.A.
<i>Ontadoc</i>	4,467	6,850	20.2	—	§	1903	U.S.A.
<i>Paterson</i>	8,618	13,063	21.9	13.0	*	1954	Canada
<i>Prindoc</i>	4,075	6,400	21.9	11.5	§	1902	U.S.A.
<i>Quedoc</i>	3,072	5,000	—	10.0	§	1890/23	USA/Can
<i>Saskadoc</i>	4,611	7,400	20.5	—	§	1900	U.S.A.
<i>Soodoc</i>	4,575	6,800	20.6	11.0	§	1902	U.S.A.
<i>Vandoc</i>	4,488	7,400	20.9	11.0	§	1898	U.S.A.
<i>Windoc</i>	4,599	7,400	21.9	—	§	1899	U.S.A.

Quebec & Ontario Transportation Company Limited,
680 Sherbrooke Street, West,
Montreal, Quebec

<i>Black River</i>	3,587	5,200	19.9	13.0	†	1896/52	USA/Can
<i>Heron Bay</i>	3,525	5,400	19.2	10.0	*	1902	Canada
<i>Pic River</i>	3,569	5,200	—	13.0	†	1896/52	USA/Can

Upper Lakes & St. Lawrence Transportation Company Limited,
417-419 Queen's Quay West,
Toronto 2B, Ontario

<i>Douglass Houghton</i>	5,107	7,500	19.5	11.0	§	1899	U.S.A.
<i>Gordon C. Leitch</i>	12,460	18,660	23.7	14.5	*	1952	Canada
<i>Howard L. Shaw</i>	4,769	7,500	19.5	11.0	§	1900/22	U.S.A.
<i>James B. Eads</i>	3,865	5,500	19.8	11.5	§	1894	U.S.A.
<i>James Norris</i>	12,464	18,660	23.7	14.5	*	1952	Canada
<i>John Ericsson</i>	3,650	5,300	18.0	11.5	§	1896	U.S.A.
<i>Maunaloa II</i>	4,678	7,500	20.2	11.0	§	1899	U.S.A.
<i>R. Bruce Angus</i>	11,816	15,900	24.5	16.0	*	1951/54	Canada
<i>Ralph Budd</i>	4,537	6,600	21.5	11.5	§	1905	U.S.A.
<i>Victorious</i>	4,676	7,500	19.6	10.5	§	1895	U.S.A.

TANKERS LIMITED TO OPERATIONS ABOVE THE ST. LAWRENCE CANALS

British American Transportation Limited,
800 Bay Street,
Toronto 5, Ontario

<i>B. A. Peerless</i>	12,638	18,360	26.6	15.0	*	1952	Canada
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Canada Steamship Lines Limited,
759 Victoria Square,
Montreal, Quebec

<i>Nipigon Bay</i>	12,595	18,450	26.5	16.0	*	1951	Canada
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† diesel * bunker oil § coal

¹For dry-cargo vessels, the following code letters indicate vessels other than bulk freighters:
pf package freighter su self-unloader

CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER **Canallers**
 OPERATING ON THE GREAT LAKES (Dec. 31, 1956) (Con.)

	Tonnage			Draft Feet	Speed M.p.h.	Fuel	Year	Built ¹	
	Deadweight							Country	
	Gross	at 14'	S/d'ft						
DRY CARGO VESSELS CAPABLE OF TRAVERSING THE ST. LAWRENCE CANALS									
Bayswater Shipping Limited, Box 195, Brockville, Ontario									
<i>Bayanna</i>	1,643	1,486	1,800	15.0	10.0	§	1896	USA	su
<i>Bayquinte</i>	1,126	—	1,650	13.6	6.5	§	1912/42	USA	su
<i>George S. Cleet</i>	2,174	1,880	2,500	18.0	9.1	§	1912/51	UK	su
Beaconsfield Steamships Limited, 635 Common Street, Montreal, Quebec									
<i>Belvoir</i>	2,296	3,150	4,035	16.5	10.0	†	1954	Canada	
<i>Grifon</i>	2,292	3,150	3,589	16.5	12.0	†	1955	Canada	
<i>Redcloud</i>	1,761	—	3,250	—	9.0	†	1930/33	Canada	
<i>Redfern</i>	1,856	—	3,250	—	8.0	†	1930/34	Canada	
<i>Redriver</i>	1,838	—	3,250	—	9.0	†	1930/34	Canada	
<i>Redwood</i>	1,820	—	3,250	—	9.0	†	1930/34	Canada	
<i>Sandland</i>	2,170	—	3,000	16.5	17.0	†	1925/43	UK/Can	
<i>Tecumseh</i>	2,293	3,150	4,035	16.5	12.0	†	1955	Canada	
<i>William C. Warren</i>	1,745	—	3,000	15.7	10.5	§	1925	UK	
Canada Cement Transport Limited, Canada Cement Building, Phillips Square, Montreal, Quebec									
<i>Bulkarier</i>	2,399	—	3,172	18.1	11.0	*	1929	UK	su
<i>Cementkarrier</i>	2,013	—	2,844	16.2	10.0	†	1930	UK	su
Canada Steamship Lines Limited, 759 Victoria Square, Montreal, Quebec									
<i>Acadian</i>	1,686	—	2,550	14.8	10.0	§	1913	UK	
<i>Barrie</i>	1,824	—	2,600	15.5	9.0	§	1925	Canada	
<i>Battleford</i>	2,357	—	2,500	19.9	10.5	§	1925/39	UK/Can	pf
<i>Beaverton</i>	2,012	—	2,500	16.0	11.0	§	1908	UK	pf
<i>Calgarian</i>	2,272	—	2,500	19.1	11.5	§	1905	UK	pf
<i>Canadian</i>	2,214	—	2,500	18.8	10.5	§	1907	UK	pf
<i>City of Hamilton</i>	1,665	—	2,150	14.0	13.0	§	1927	Can	pf
<i>City of Kingston</i>	1,690	—	2,150	14.9	13.0	§	1925	Can	pf
<i>City of Montreal</i>	1,665	—	2,150	14.9	13.0	§	1927	Can	pf
<i>City of Toronto</i>	1,688	—	2,150	14.9	13.0	§	1925	Can	pf
<i>City of Windsor</i>	1,905	—	2,400	16.0	11.0	§	1929	Can	pf
<i>Coalhaven</i>	2,362	—	2,400	17.0	10.0	§	1928	UK	su
<i>Collier</i>	1,858	—	2,400	16.2	10.5	§	1924	UK	su

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 pf package freighter su self-unloader

Royal Commission on Coasting Trade

Canallers CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER OPERATING ON THE GREAT LAKES (Dec. 31, 1956) (Con.)

	Tonnage			Draft	Speed	Fuel	Built ¹	
	Gross	Deadweight					Year	Country
		at 14'	S/d'ft					
				Feet	M.p.h.			
Canada Steamship Lines Limited (<i>Concl.</i>)								
<i>Edmonton</i>	1,983	—	2,500	16.0	11.5	§	1906	UK <i>pf</i>
<i>Elgin</i>	1,906	—	2,450	17.4	10.5	§	1923	UK
<i>Fairmount</i>	1,851	—	2,500	15.1	10.0	§	1923	UK
<i>Fernie</i>	2,419	—	2,500	17.5	13.0	§	1929	Can <i>pf</i>
<i>Glenelg</i>	2,309	—	2,350	18.1	11.5	§	1923/55	Canada
<i>Grainmotor</i>	1,829	—	3,000	16.5	10.5	†	1929	Canada
<i>Hastings</i>	1,906	—	2,500	17.3	10.5	§	1923	UK
<i>Iroquois</i>	2,300	—	2,500	17.5	11.0	†	1955	Canada
<i>Kenora</i>	1,979	—	2,500	16.0	11.5	§	1907	UK <i>pf</i>
<i>Kinmount</i>	1,711	—	2,650	16.0	9.0	§	1923	Canada
<i>Lethbridge</i>	2,407	—	2,500	17.5	11.0	§	1924	UK <i>pf</i>
<i>Mapleheath</i>	1,692	—	2,500	15.2	11.5	§	1910	UK
<i>Meaford</i>	1,824	—	2,450	15.5	9.0	§	1925	Canada
<i>Metis</i>	2,332	2,950	3,872	17.5	11.5	†	1956	Canada
<i>Penetang</i>	1,824	—	2,600	15.5	9.0	§	1925	Canada
<i>Saskatoon</i>	2,412	—	2,500	17.5	11.0	§	1927	Can <i>pf</i>
<i>Selkirk</i>	2,384	—	2,500	17.5	10.5	§	1926	Can <i>pf</i>
<i>Simcoe</i>	1,783	—	2,500	16.3	10.5	§	1923	UK
<i>Starmount</i>	1,859	—	2,500	15.1	10.5	§	1923	UK
<i>Teakbay</i>	1,895	—	2,700	16.0	10.0	§	1929	UK
<i>Weyburn</i>	2,408	—	2,500	17.5	11.0	§	1927	Can <i>pf</i>
<i>Winnipeg</i>	2,383	—	2,500	17.5	10.5	§	1926	Can <i>pf</i>
Colonial Steamships Limited, 84 West Street, Port Colborne, Ontario								
<i>Acton</i>	1,900	2,600	3,300	16.5	9.2	§	1928	UK
<i>Brampton</i>	1,975	2,520	2,870	15.9	9.0	§	1927	UK
<i>C. A. Ansell</i>	1,940	2,585	2,980	16.9	9.0	§	1929	UK
<i>Clary Foran</i>	1,975	2,585	2,980	16.9	9.0	§	1929	UK
<i>Clayton</i>	1,974	2,520	2,870	15.9	9.0	§	1929	UK
<i>David Barclay</i>	1,900	2,600	3,300	16.5	9.2	§	1928	UK
<i>Donald F. Fawcett</i>	1,915	2,200	3,100	17.2	10.0	§	1924	UK
<i>E. P. Murphy</i>	1,927	2,585	2,980	16.9	9.0	§	1929	UK
<i>F.W. Moore</i>	1,895	2,575	3,275	16.5	9.2	§	1929	UK
<i>Frank H. Brown</i>	1,902	2,200	3,100	17.5	10.0	§	1924	UK
<i>Frank Wilkinson</i>	1,940	2,585	2,980	16.9	9.0	§	1929	UK
<i>George M. Carl</i>	1,938	2,585	2,980	16.9	9.0	§	1928	UK
<i>H. L. Wyatt</i>	1,928	2,585	2,980	16.9	9.0	§	1929	UK
<i>J. G. Irwin</i>	1,927	2,585	2,980	16.9	9.0	§	1929	UK
<i>J. N. McWatters</i>	1,928	2,585	2,980	16.9	9.0	§	1929	UK

† diesel * bunker oil § coal

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pf package freighter *su* self-unloader

CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER **Canallers**
OPERATING ON THE GREAT LAKES (Dec. 31, 1956) (*Con.*)

	Tonnage			Draft	Speed	Fuel	Built ¹	
	Gross	Deadweight					Year	Country
		at 14'	S/d'ft	Feet	M.p.h.			
Colonial Steamships Limited (<i>Concl.</i>)								
<i>J. S. Walton</i>	1,900	2,600	3,300	16.5	9.2	§	1928	UK
<i>John A. France</i>	1,938	2,585	2,980	16.9	9.0	§	1929	UK
<i>Paul Manion</i>	1,927	2,585	2,980	16.9	9.0	§	1929	UK
<i>Picton</i>	1,895	2,600	3,300	16.5	9.2	§	1929	UK
<i>Queenston</i>	1,976	2,520	2,870	15.9	9.0	§	1927	UK
<i>R. H. Marshall</i>	1,926	2,585	2,980	16.9	9.0	§	1929	UK
<i>Trenton</i>	1,905	2,575	3,275	16.5	9.2	§	1927	UK
<i>Walter Inkster</i>	2,079	2,420	3,339	18.9	10.0	†	1895	UK
<i>Wheaton</i>	1,900	2,600	3,300	16.5	9.2	§	1928	UK
Gulf & Lake Navigation Company Limited, 275 St. James Street, West, Montreal, Quebec								
<i>Birchton</i>	2,047	2,475	3,016	16.0	8.0	§	1924/50	UK/Can
<i>Cedarton</i>	2,009	2,475	3,016	16.0	8.0	§	1924/51	UK/Can
Hall Corporation of Canada, 637 Common Street, Montreal 3, Quebec								
<i>Coalfax</i>	2,502	—	2,652	16.8	9.0	§	1927	UK <i>su</i>
<i>Eastcliffe Hall</i>	2,140	2,900	3,740	16.5	10.3	†	1954	Canada
<i>Frankcliffe Hall</i>	2,127	2,900	3,625	16.5	10.3	†	1952	Canada
<i>Hutchcliffe Hall</i>	2,143	2,900	3,625	16.5	10.3	†	1954	Canada
<i>John H. Price</i>	1,937	2,575	3,275	16.5	9.2	§	1927	UK
<i>Leecliffe Hall</i>	1,985	2,575	3,275	16.5	9.2	*	1947	Canada
<i>Northcliffe Hall</i>	1,986	2,575	3,275	16.5	9.2	*	1947	Canada
<i>Shiercliffe Hall</i>	2,012	2,575	3,275	16.5	9.2	*	1950	Canada
<i>Southcliffe Hall</i>	1,986	2,575	3,275	16.5	9.2	*	1947	Canada
<i>Sterncliffe Hall</i>	1,985	2,575	3,275	16.5	9.2	*	1947	Canada
<i>Westcliffe Hall</i>	2,334	2,870	4,035	16.5	10.3	†	1956	UK
Hindman Transportation Company Limited, 1105—1st Avenue East, Owen Sound, Ontario								
<i>George Hindman</i>	1,913	2,250	3,000	17.3	10.0	†	1920	Canada
Keystone Transports Limited, 435 St. Patrick Street, Ville La Salle, Quebec								
<i>Keybar</i>	1,723	—	2,800	15.8	10.5	§	1923	UK
<i>Keybell</i>	1,730	—	2,550	14.5	11.5	§	1912	Canada
<i>Keydon</i>	1,739	—	3,000	15.6	10.5	§	1927	UK
<i>Keynor</i>	1,806	—	2,800	16.6	10.0	§	1914	UK
<i>Keyport</i>	1,721	—	2,650	17.7	10.0	§	1909	UK
<i>Keyshey</i>	1,796	—	3,100	16.4	11.0	§	1928	UK
<i>Keystate</i>	1,729	—	2,800	15.8	10.5	§	1923	UK
<i>Keyvive</i>	1,768	—	2,800	14.8	10.5	§	1913	UK
<i>Keywest</i>	1,739	—	3,000	15.6	10.5	§	1927	UK

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Royal Commission on Coasting Trade

Canallers CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER OPERATING ON THE GREAT LAKES (Dec. 31, 1956) (Con.)

	Tonnage			Draft Feet	Speed M.p.h.	Fuel	Built ¹	
	Gross	Deadweight					Year	Country
		at 14'	S/d'ft					
Leitch Transport Limited, 417-419 Queen's Quay, West, Toronto 2B, Ontario								
<i>Charles R. Huntley</i>	1,760	2,500	2,900	15.5	9.0	§	1926	UK
<i>James Stewart</i>	1,760	2,500	2,900	15.6	9.0	§	1926	UK
Marathon Corporation of Canada Limited, 100 Adelaide Street, West, Toronto, Ontario								
<i>D. C. Everest</i>	2,196	2,345	3,070	16.6	12.0	†	1952	Canada
<i>Norco</i>	1,512	1,750	2,000	15.0	11.3	§	1915	USA
Mohawk Navigation Company Limited, 635 Common Street, Montreal, Quebec								
<i>F. V. Massey</i>	1,895	—	2,500	16.0	10.0	§	1929	UK
National Sand and Material Company Limited, 402 Harbour Commission Building, Toronto, Ontario								
<i>Charles Dick</i>	2,015	—	2,500	15.9	11.5	*	1922	Can su
Norris Grain Company Limited, 417-419 Queen's Quay, West, Toronto 2B, Ontario								
<i>John S. Pillsbury</i>	1,754	2,500	2,900	15.6	9.0	§	1926	UK
<i>Judge Kenefick</i>	1,745	2,500	2,900	15.6	9.0	§	1925	UK
<i>Norman B.</i>								
<i>MacPherson</i>	1,743	2,500	2,900	15.6	9.0	§	1925	UK
<i>Shirley G. Taylor</i>	1,746	2,500	2,900	15.6	9.0	§	1925	UK
Northwest Steamships Limited, 29 Colborne Street, Toronto 1, Ontario								
<i>A. A. Hudson</i>	2,222	—	3,160	18.3	8.0	§	1924	UK
<i>Superior</i>	1,801	—	2,100	17.5	10.0	§	1889	USA
N. M. Paterson & Sons Limited, 276 St. James Street, West, Montreal, Quebec								
<i>Calgadoc</i>	2,293	3,000	3,872	17.5	11.0	†	1956	Canada
<i>Cartierdoc</i>	2,209	—	3,144	16.2	9.0	§	1928	UK
<i>Coteaudoc</i>	1,926	—	3,521	15.8	9.0	§	1929	UK
<i>Farrandoc</i>	1,865	—	2,744	16.1	10.5	†	1926	USA
<i>Ganandoc</i>	2,209	—	3,500	16.3	9.0	*	1929/54	UK/Can
<i>Hamildoc</i>	1,796	—	3,086	16.4	11.0	*	1928	UK

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CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER **Canallers**
 OPERATING ON THE GREAT LAKES (Dec. 31, 1956) (*Con.*)

	Tonnage			Draft	Speed	Fuel	Built ¹	
	Deadweight						Year	Country
	Gross	at 14'	S/d'ft					
				Feet	M.p.h.			
N. M. Paterson & Sons Limited (<i>Concl.</i>)								
<i>Humberdoc</i>	2,357	—	3,395	16.5	12.5	†	1937/50	USA/Can
<i>Kingdoc</i>	2,211	—	3,152	16.2	9.0	§	1927/49	UK/Can
<i>Lachinedoc</i>	2,193	3,300	3,572	16.5	10.0	†	1956	UK
<i>Lavaldoc</i>	2,173	—	3,263	16.2	9.0	§	1928/50	UK/Can
<i>Lawrendoc</i>	2,188	—	3,150	16.2	9.0	§	1929/50	UK/Can
<i>Mondoc</i>	1,779	—	2,710	15.6	10.0	§	1928	UK
<i>Newbrundoc</i>	2,208	—	3,665	16.3	9.0	§	1928/47	UK/Can
<i>Prescodoc</i>	2,197	—	3,253	16.6	10.0	§	1929/52	UK/Can
<i>Sarniadoc</i>	2,290	3,000	3,872	17.5	11.0	†	1956	Canada
<i>Soreldoc</i>	2,214	—	3,272	16.3	9.0	§	1929/53	UK/Can
<i>Thordoc</i>	1,831	2,425	2,800	16.4	9.5	§	1927	UK
<i>Torondoc</i>	1,926	—	3,000	15.8	9.0	§	1929	UK
<i>Troisdoc</i>	2,211	—	3,671	16.3	10.0	§	1929/39	UK/Can
<i>Wellandoc</i>	2,047	—	2,900	16.2	12.5	§	1922	Canada

K. A. Powell (Canada) Limited,
 Fort William, Ontario

<i>Starbelle</i>	2,274	—	3,200	19.5	12.0	*	1913	UK
<i>Starbuck</i>	2,025	—	2,500	17.5	11.5	§	1888	USA

Quebec & Ontario Transportation Company Limited,
 680 Sherbrooke Street, West,
 Montreal, Quebec

<i>Chicago Tribune</i>	2,960	—	3,530	19.2	10.5	†	1930	UK
<i>Col. Robert R. McCormick</i>	2,314	3,100	3,850	15.5	10.0	†	1955	UK
<i>Franquelin</i>	2,097	—	3,434	15.4	9.5	†	1936	UK
<i>Joseph Medill Patterson</i>	2,300	3,040	3,850	15.5	10.0	†	1954	UK
<i>Manitoulin</i>	1,940	—	3,000	16.9	9.0	§	1929	UK
<i>New York News</i>	2,310	—	3,850	19.6	11.0	§	1925	UK
<i>Outarde</i>	2,241	—	3,600	19.5	10.5	§	1924	UK
<i>Shelter Bay</i>	1,670	—	2,530	15.8	10.0	§	1922	UK

Reoch Transports Limited,
 485 McGill Street,
 Montreal, Quebec

<i>Brookdale</i>	2,286	1,600	3,750	22.0	9.0	§	1902	Canada
<i>Forestdale</i>	1,896	—	3,210	18.8	9.0	§	1890	USA
<i>Willowdale</i>	2,335	1,500	3,650	22.0	9.5	*	1917/53	Canada

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	Tonnage			Draft Feet	Speed M.p.h.	Fuel	Built ¹	
	Deadweight						Year	Country
	Gross	at 14'	S/d'ft					
Upper Lakes & St. Lawrence Transportation Company Limited, 417-419 Queen's Quay, West, Toronto 2B, Ontario								
<i>Blue River</i>	1,818	3,200	3,360	14.6	9.0	†	1930	Canada
<i>Brown Beaver</i>	1,892	2,600	3,200	16.3	9.0	§	1929	UK
<i>Edwin T. Douglass</i>	1,749	2,500	2,900	15.5	9.0	§	1923	UK
<i>Grey Beaver</i>	1,892	2,600	3,200	16.3	9.0	§	1929	UK
<i>Grovedale</i>	1,903	1,850	2,635	17.0	8.0	§	1903/53	USA/Can
<i>John B. Richards</i>	1,743	2,500	2,900	15.6	9.0	§	1925	UK
<i>Norman P. Clement</i>	1,729	2,500	2,900	15.6	9.0	§	1923	UK
<i>Parkdale</i>	1,912	1,850	2,635	17.0	8.0	§	1903/53	USA/Can
<i>Shelton Weed</i>	1,745	2,500	2,900	15.6	9.0	§	1925	UK
<i>Wallaceburg</i>	1,723	2,500	2,900	15.6	9.0	§	1923	UK
<i>William H. Daniels</i>	1,772	2,500	2,900	15.6	9.0	§	1923	UK
Valley Camp Coal Company of Canada Limited, 220 Bay Street, Toronto, Ontario								
<i>Valley Camp</i>	2,878	—	2,678	17.5	10.0	§	1927/51	UK/Can su
Yankcanuck Steamships Limited, P.O. Box 517, Sault Ste. Marie, Ontario								
<i>Mancox</i>	1,551	1,850	2,200	16.0	9.0	*	1903/42	USA/Can su
<i>Manzzutti</i>	1,528	1,850	2,200	16.0	9.0	*	1903/42	USA/Can su
<i>Yankcanuck</i>	1,778	1,625	1,800	15.5	10.5	§	1889/1922	USA su
TANKERS CAPABLE OF TRAVERSING THE ST. LAWRENCE CANALS								
Branch Lines Limited, 1405 Peel Street, Montreal, Quebec								
<i>Cedarbranch</i>	2,144	2,695	3,239	16.0	10.0	†	1951	Canada
<i>Elmbranch</i>	2,381	2,230	3,430	18.4	9.0	†	1944	Canada
<i>Firbranch</i>	2,404	2,230	3,430	18.4	9.0	†	1944	Canada
<i>Pinebranch</i> (Laid up)	1,984	1,687	3,100	19.9	8.0	*	1895/1940	USA/Can
<i>Sprucebranch</i>	2,405	2,230	3,430	18.4	9.0	†	1944	Canada
<i>Willowbranch</i>	2,153	2,716	3,260	16.0	10.0	†	1950	Canada

† diesel * bunker oil § coal

¹For dry-cargo vessels, the following code letters indicate vessels other than bulk freighters:
pf package freighter su self-unloader

CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER **Canallers**
 OPERATING ON THE GREAT LAKES (Dec. 31, 1956) (*Con.*)

	Tonnage			Draft Feet	Speed M.p.h.	Fuel	Built ¹	
	Gross	Deadweight					Year	Country
		at 14'	S/d'ft					
Canadian Coastwise Carriers, Limited, 1948 Dorchester Street, West, Montreal, Quebec								
<i>Coastal Carrier</i>	2,083	2,750	2,750	14.0	9.0	†	1950	Canada
<i>Coastal Cascades</i>	1,239	1,450	1,450	14.0	7.0	*	1919	France
<i>Coastal Cliff</i>	1,072	1,450	1,450	14.0	7.0	*	1935/46	Canada
<i>Coastal Creek</i>	1,752	2,100	3,500	17.0	8.5	†	1910/40	UK/Can
<i>Transbay</i>	1,118	1,200	1,200	14.0	9.0	*	1912/52	USA/Can
<i>Transinland</i>	1,946	2,100	3,500	17.0	8.5	†	1926/48	USA/Can
<i>Translake</i>	1,263	1,450	1,450	14.0	7.0	*	1921/37	France
<i>Transriver</i>	1,238	1,450	1,450	14.0	7.0	*	1920/37	France
<i>Transstream</i>	1,335	2,000	2,000	14.0	7.0	†	1935/42	Canada
Canadian Oil Companies Limited, 204 Richmond Street, West, Toronto, Ontario								
<i>White Rose</i>	2,404	2,230	3,600	18.4	10.3	†	1944	Canada
Gayport Shipping Limited, 20 College Street, Toronto, Ontario								
<i>Blue Cross</i>	1,877	2,350	2,800	14.8	7.0	†	1930/40	Canada
<i>Britamlube</i>	1,932	2,200	2,829	16.5	7.8	*	1932	UK
<i>Britamoco</i>	1,932	2,200	2,829	16.5	9.0	*	1932	UK
<i>Britamoil</i>	1,931	2,200	2,829	16.5	9.0	*	1931	UK
<i>Britamolene</i>	1,931	2,200	2,829	16.5	9.0	*	1931	UK
<i>Fuel Transporter</i>	2,500	1,830	3,925	21.8	9.8	*	1930	UK
<i>Oil Transporter</i>	1,757	—	2,600	13.7	10.0	†	1936	USA
Imperial Oil Limited, Marine Division, 56 Church Street, Toronto, Ontario								
<i>Imperial Collingwood</i>	2,128	2,560	3,250	16.5	10.3	*	1947	Canada
<i>Imperial Cornwall</i>	1,969	2,210	2,800	16.2	9.2	*	1930	UK
<i>Imperial Hamilton</i>	2,060	2,070	2,770	16.6	9.2	*	1916	Canada
<i>Imperial Kingston</i>	1,986	2,045	2,745	16.6	10.3	*	1916	Canada
<i>Imperial London</i>	2,130	2,560	3,250	16.5	10.3	*	1948	Canada
<i>Imperial Simcoe</i>	1,971	2,210	2,800	16.2	10.3	*	1930	UK
<i>Imperial Welland</i>	2,104	2,045	2,745	16.6	8.5	*	1916	Canada
<i>Imperial Windsor</i>	1,990	2,210	2,800	16.2	10.3	*	1927	UK

† diesel * bunker oil § coal

¹For dry-cargo vessels, the following code letters indicate vessels other than bulk freighters:
pf package freighter *su* self-unloader

Royal Commission on Coasting Trade

Canallers CANADIAN FLAG VESSELS OF 1,000 GROSS TONS AND OVER OPERATING ON THE GREAT LAKES (Dec. 31, 1956) (Concl.)

	Tonnage			Draft Feet	Speed M.p.h.	Fuel	Built ¹	
	Gross	Deadweight					Year	Country
		at 14'	S/d'ft					
Lakeland Tankers Limited, 36 Toronto Street, Toronto, Ontario								
<i>Lubrolake</i>	1,645	—	2,678	13.9	9.5	†	1937	USA
<i>Makaweli</i>	2,665	—	4,082	24.1	11.5	*	1919	USA
S/S Texaco Chief Limited, 1425 Mountain Street, Montreal, Quebec								
<i>Texaco Brave</i>	1,926	2,150	2,700	16.0	9.5	*	1929	UK
<i>Texaco Warrior</i>	2,500	1,830	3,925	21.3	9.8	*	1930	UK
Shell Canadian Tankers Limited, 25 Adelaide Street East, Toronto, Ontario								
<i>Eastern Shell</i>	1,876	2,350	2,695	15.3	10.9	*	1932	UK
<i>Lakeshell</i>	2,238	2,980	3,080	14.3	10.3	†	1940	Canada

† diesel * bunker oil § coal

¹For dry-cargo vessels, the following code letters indicate vessels other than bulk freighters:
pf package freighter *su* self-unloader

APPENDIX XI

Evidence on the Cost of Operating Former Park Vessels (10,000 deadweight tons) on Canadian and on United Kingdom Registry.

(From Exhibits 171, 172, 191.)

I. Extract from Exhibit 171 (A letter of October 31, 1955, addressed to the Commission by W. Baatz, Treasurer, Saguenay Terminals Ltd.)

"In testifying before the Royal Commission on October 6th during the Montreal hearings the writer was requested and undertook to provide figures on the cost experience of this company in operating its ten thousand ton vessels for 12 months prior to and for 12 months after their transfer from Canadian registry to United Kingdom registry.

"The figures we have been able to develop are set out in the attachment [Exhibit No. 172] to this present letter, in which we show not only the actual cost experience of this company but also our best estimate of the cost experience we could have achieved by operating the ships after their transfer to U.K. registry strictly on the basis of normal costs for a U.K. operator.

"A few words of explanation on this may be helpful to the Commissioners. Even after this company transferred its ships to U.K. registry, it has continued to pay wages to the licensed personnel not very much less than those previously paid while the vessels were on Canadian registry. As the United Kingdom has suffered for several years now from a serious shortage of licensed seagoing personnel, we could not have achieved efficient re-manning there of our transferred ships all at one time; also for the reason that our operation is so largely a Western Hemisphere operation that our licensed personnel—even if recruited in the United Kingdom—tends to establish domicile in Canada, we have considered it improbable that we would be able to keep the ships manned on the basis of normal U.K. wage scales where the operation required the ships and the men to spend so much time in Western Hemisphere waters.

"As a consequence of running a largely Western Hemisphere operation we have a high incidence of maintenance work in Eastern Canada (when the ships become light upon discharge of bauxite), as well as provisioning and storing, the cost to this company being considerably more than the normal cost of these things for an operation based on the United Kingdom for which the major part of maintenance work, provisioning and storing would be carried out in U.K. ports.

"Our figures indicate that the normal difference between Canadian flag operation and U.K. flag operation for our 10,000 tonners for 12 months after their transfer amounts to \$94,000 per ship per annum on a 365-day basis and that as a result of the nature of *our* operation and our policies and practices in relation to it at the time, the actual difference in our case amounted to \$58,000 per ship per annum for the 12 months following transfer."

Royal Commission on Coasting Trade

II. Exhibit 172 (Attachment referred to above.)

SAGUENAY TERMINALS LIMITED

Cost Experience in Operating 10,000 Ton Vessels during 12 Months Prior to and 12 Months Following Transfer from Canadian Registry to U.K. Registry
(Excluding depreciation)

VESSEL	SAGTERMS BEFORE	COST EXPERIENCE AFTER	ESTIMATED FULL U.K. BASIS
<i>Sunjarv</i>	\$ 790.00	\$ 547.00	\$ 508.00
<i>Sunjewel</i>	596.00	744.00	524.00
<i>Sunkirk</i>	824.00	534.00	517.00
<i>Sunmont</i>	932.00	546.00	509.00
<i>Sunrell</i>	703.00	652.00	509.00
<i>Sunvalley</i>	764.00	612.00	527.00
<i>Sunwhit</i>	802.00	669.00	517.00
Average daily cost per vessel	773.00	615.00	516.00
Average per year per vessel	\$282,145.00	\$224,475.00	\$188,340.00
Annual Reduction		\$ 57,670.00	\$ 93,805.00

III. Exhibit 191 (A letter of December 15, 1955, with attachments addressed to the Commission by W. J. Fisher, Canadian Shipowners Association.)

"In your letter of November 16th, you asked for a comparative summary of the costs of operating ocean-going vessels on Canadian registry and on United Kingdom registry based on the actual experience of members of the Association.

"Attached is a summary with supporting comments and some particular data on wages calculated on the average experience of several owners operating the same vessels on both registries.

"The average daily difference approximates \$294.50. On a basis of 365 days this would give an annual differential of \$107,492 which is reasonably close to the calculation used by the Canadian Maritime Commission in their recent submission to the Government on the question of a subsidy for Canadian-flag ocean-going shipping.

"I trust this information will be helpful."

*Comparison of Average Daily Voyage Costs on 10,000 DWT "Park" Vessel Operated
on Canadian and United Kingdom Registries*

	CANADIAN COSTS	UNITED KINGDOM COSTS
Wages (including overtime leave, etc.—see detailed statement attached.)	\$372.00	\$165.50
Subsistence	65.00	45.00
Stores and Supplies (including lubricants, oil and water.)	50.00	45.00
Repairs and Maintenance (including reasonable provision for surveys)	160.00	140.00
Insurance (including Marine War Risk, P. & I. ¹ and Workmen's Compensation.)	133.00	90.00
Sundries (other voyage expenses)	15.00	15.00
Management (administration)	65.00	65.00
	<u>\$860.00</u>	<u>\$565.50</u>

¹Protection and Indemnity. (Ed.)

Comments

1. Allowance for depreciation not included. As long as a vessel is Canadian owned, this should be the same. Widely fluctuating value of these vessels makes comparison unrealistic since individual owners' commercial judgment dictates his capital investment.
2. Cost of fuel not included as consumption has direct relation to employment. As such, it is variable and thus attributable to cargo revenue.
3. *Wages*—Attached in support of these estimates are statements showing detailed breakdown. It should be noted that a U.K. registered vessel requires a crew of 36 compared with the Canadian 34. There are substantial variations in the calculation of overtime, leave and other factors. The item "Retained Personnel and Permanent Staff" shown on the U.K. statement covers additional costs for Canadians still employed on the vessel after transfer and would not be reflected in a normal U.K. owned and operated vessel, though a U.K. owner would probably have a similar item in different circumstances.
4. *Subsistence*—It may be noted that there has not been any increase in Canadian subsistence costs in recent years. This is accounted for by the smaller crews and greater efficiency of the catering staff. The difference between Canadian and U.K. figures occurs in the cost of staple items purchased in the sterling area as compared to a vessel regularly storing in the dollar area and in the dissimilarity in tastes and standards of messing demanded by Canadians.
5. *Stores and Supplies*—The small difference between Canadian and U.K. costs is accounted for by the fact that most of these items are purchased in world markets for both types of vessels.
6. *Repairs and Maintenance*—Canadian crews are on an average better workers and do more of the routine repairs and maintenance work. A factor in this item is the time taken to accomplish the work on shore. Canadian experience is much better in recent years, hence costs have not materially increased as compared with the United Kingdom.
7. *Management*—The present transfer arrangement requires a degree of dual management, accounting for the high percentage of total operating cost.

Royal Commission on Coasting Trade

Pro Forma Crew List and Union Wages, 10,000 DWT "Park" Vessel Operated on United Kingdom Registry

	STERLING £	CANADIAN \$ at 2.80 Exch.	
1 Master	£ 106. 0. 0	\$ 296.80	
1 1st Mate (Master's Certificate)	69. 7. 6	194.25	Full seniority after 3 years
1 2nd Mate (1st Mate Certificate)	50. 2. 6	140.35	
1 3rd Mate (2nd Mate Certificate)	38.10. 0	107.80	
1 Radio Officer (See Below)	—	—	
1 Carpenter	37. 7. 6	104.65	
1 Bosun	35. 0. 0	98.00	
4 A. B.'s @ £31.10.0	126. 0. 0	352.80	
1 A. B.'s @ £30.10.0	30.10. 0	85.40	
1 A. B.'s @ £29.10.0	29.10. 0	82.60	
2 S.O.S. @ £20.12.6	41. 5. 0	115.50	
2 J.O.S. @ £17.15.0	35.10. 0	99.40	
1 Ch. Engineer	95. 0. 0	266.00	Full seniority
1 2nd Engineer (2nd Cl. Certificate)	60.17. 6	170.45	Full seniority
1 3rd Engineer	41.17. 6	117.25	
1 4th Engineer	33.12. 6	94.15	
1 4th Engineer	31.17. 6	89.25	
3 Greasers @ £34.0.0	102. 0. 0	285.60	
5 Firemen @ £32.0.0	160. 0. 0	448.00	
1 Ch. Steward	44.17. 6	125.65	Incl. £3.0.0 Canteen Bonus
1 2nd Steward	31. 0. 0	86.80	
1 Asst. Steward (2 years)	28.10. 0	79.80	
1 Catering Boy	13.15. 0	38.50	
1 Ch. Cook (Higher Diploma)	41.12. 6	116.55	
1 2nd Cook	32. 0. 0	89.60	
36 Total—Straight Time per month	£1,316. 2. 6	\$3,685.15	
Voyage Leave and Sundays at Sea	209. 0. 0	585.20	
	£1,525. 2. 6	\$4,270.35	
Overtime (9½ % of S.T. and Leave)	145. 0. 0	406.00	
Radio Officer—Wages (Paid by Marconi)	58. 0. 0	162.40	
	£1,728. 2. 6	\$4,838.75	
Retained Personnel and Permanent Staff	45. 0. 0	126.00	
	£1,773. 2. 6	\$4,964.75	
Average Daily Cost per 30-day month		\$ 165.50	

May 30th, 1955

Appendix XI

Pro Forma Crew List and Union Wages, 10,000 DWT "Park" Vessel Operated on Canadian Registry

<i>Appointment</i>	<i>Basic Wage</i>	<i>Overtime Rate</i>
Master	\$500.00-550.00	\$ —
Chief Officer	337.50-387.50	52.50 per month
Second Officer	297.50-337.50	42.50 " "
Third Officer	272.50-287.50	37.50 " "
Radio Officer	277.50	—
1—Bosun	221.00	.95 per hour
1—Carpenter	226.00	.95 " "
6—A.B.'s @	204.00	.85 " "
3—O.S. @	178.50	.75 " "
Chief Engineer	475.00-525.00	—
Second Engineer	337.50-387.50	52.50 per month
Third Engineer	297.50-337.50	42.50 " "
Fourth Engineer	262.50-287.50	37.50 " "
Donkeyman	221.00	.95 per hour
3—Oilers @	209.00	.85 " "
4—Firemen @	204.00	.85 " "
Chief Steward	296.00	—
Assistant Steward	204.00	.85 " "
Chief Cook	241.00	.95 " "
Second Cook	204.00	.85 " "
Engineer's Messman	187.00	.85 " "
Utility Man	162.00	.75 " "

Overtime Rates for licensed personnel are fixed monthly as additions to basic rates in lieu of hourly computation.

Deck and Engine Room unlicensed personnel work 8 hours per day, 5 day week.

Stewards' personnel work 7 hours per day, 6 day week.

Total wage cost based on average overtime, officers' leave as arranged and other ratings' leave 14 days per year, approximately \$134,875 per annum, \$11,240 per 30-day month, or \$372 per day.

June 14, 1954

APPENDIX XII

Extracts from
“Estimated Cost of Operating in the Great Lakes”
(Exhibit 248)

Submitted by the
Canadian Shipowners Association

	1955 Building Cost				1959 Building Cost			
	9,000 DWT		18,500 DWT		9,000 DWT		18,500 DWT	
	\$2,200,000		\$4,000,000		\$2,550,000		\$4,600,000	
	Daily - 20 years		Daily - 20 years		Daily - 20 years		Daily - 20 years	
	335-day year		335-day year		335-day year		335-day year	
Depreciation 7%	\$ 328.36		\$ 597.01		\$ 380.60		\$ 686.57	
Interest 5%	119.33		216.96		138.31		249.50	
Organization, etc.	20.12		34.22		22.86		38.93	
Insurance	108.58		166.12		123.90		191.30	
Repairs and Surveys	168.66		193.87		168.66		193.87	
Portage:								
Basic Wages	140.00		146.87		140.00		146.87	
Overtime	23.65		24.95		23.65		24.95	
Clerical	.89		.89		.89		.89	
Travelling (crews)	8.51		8.96		8.51		8.96	
Master Shore Allowance	.81		.81		.81		.81	
Leave Pay	7.85		8.36		7.85		8.36	
Leave Pay Subsistence	1.33		1.42		1.33		1.42	
Sick Pay (Estimated)	1.42		1.49		1.42		1.49	
Pension Fund	2.76		2.99		2.76		2.99	
B.N. Insurance	5.36		5.72		5.36		5.72	
Provisions	49.25		52.24		49.25		52.24	
Stores	45.37		72.09		45.37		72.09	
Superintendence	11.94		11.94		11.94		11.94	
Miscellaneous	22.28		22.78		22.28		22.78	
	\$1,066.47		\$1,569.69		\$1,155.75		\$1,721.68	
	35.82*		35.82*		35.82*		35.82*	
Administration and General	\$1,102.29		\$1,605.51		\$1,191.57		\$1,757.50	
<i>Great Lakes Additional (Basis 185 days trading)</i>								
Insurance	\$10.76		\$14.68					
Provisions	18.00		19.00					
Stores	4.86		11.89					
Miscellaneous	3.78		4.19					
Wage — (Separately in estimates)	—		—					
	\$37.40		\$49.76					
*Administration and General								
Basis \$1,000 per month								
12 months								
\$12,000 per year								
Cost per day basis 335 days \$ 35.82								

Royal Commission on Coasting Trade

OPERATING COST — 20 YEAR PERIOD

Motor Vessel 9,000 DWT, 5,000 HP, 14 Knots on 20 Tons Diesel

	20 Year Total	Daily Cost Basis 6700 Days
1. (A) Capital Cost \$2,200,000		
(B) Amortization period 20 years		
(C) Depreciation method 7% straight line	\$2,200,000.	\$ 328.36
(D) Interest at 5%	799,495.	119.33
(E) Organization, interest during construction, supervising	134,800.	20.12
	<u>\$3,134,295.</u>	<u>\$ 467.81</u>
2. (A) 335 days per year (30 days repairs, survey and deviation) daily cost	—	\$ 467.81
3. Item 1 above	\$3,134,295.	\$ 467.81
(A) Insurance	727,400.	108.58
(B) Repairs and Surveys	1,130,000.	168.66
(C) Postage	1,290,300.	192.58
(D) Provisions	330,000.	49.25
(E) Stores	304,000.	45.37
(F) Superintendence	80,000.	11.94
(G) Miscellaneous	149,300.	22.28
Totals	<u>\$7,145,295.</u>	<u>\$1,066.47</u>

ADDITIONAL EXPENSES — GREAT LAKES TRADING

	Yearly	20 Year Total	Daily Cost (185-day Year)
Insurance	\$1,990.	\$39,800.	\$10.76
Portage (Separate charge in Estimates)			
Provisions	3,330.	66,600.	18.00
Stores	900.	18,000.	4.86
Miscellaneous	700.	14,000.	3.78
Total	<u>\$6,920</u>	<u>\$138,400.</u>	
Daily Cost (185 days)			<u>37.40</u>

OPERATING COST — 20 YEAR PERIOD

Motor Vessel about 15,000 DWT (Lakes), 18,500 DWT, 6,500 HP, 14 Knots
on 26 Tons Diesel

	<u>20 Year Total</u>	<u>Daily Cost</u> Basis 6700 Days
1. (A) Capital Cost \$4,000,000		
(B) Amortization period 20 years		
(C) Depreciation method 7% straight line	\$4,000,000.	\$ 597.01
(D) Interest at 5%	1,453,625.	216.96
(E) Organization, interest during construction, supervising	229,300.	34.22
	<u>\$5,682,925.</u>	<u>\$ 848.19</u>
2. (A) 335 days per year (30 days repairs, survey and deviation) Cost per day	—	\$ 848.19
3. Item 1 above	\$ 5,682,925.	\$ 848.19
(A) Insurance	1,113,000.	166.12
(B) Repairs and Surveys	1,298,960.	193.87
(C) Portage	1,356,500.	202.46
(D) Provisions	350,000.	52.24
(E) Stores	483,000.	72.09
(F) Superintendence	80,000.	11.94
(G) Miscellaneous	152,600.	22.78
Total	<u>\$10,516,985.</u>	
Daily Cost 335 days		<u>\$1,569.69</u>

ADDITIONAL EXPENSES — GREAT LAKES TRADING

	<u>20 Year Total</u>	<u>Daily Cost</u> (185-day Year)
Insurance	\$ 54,300.	\$14.68
Portage (Separate Charge in Voyage Estimates)		
Provisions	70,300.	19.00
Stores	44,000.	11.89
Miscellaneous	15,500.	4.19
	<u>\$184,100.</u>	
Daily cost 185 days trading		<u>\$49.76</u>

Royal Commission on Coasting Trade

9,000 DWT VESSEL

Fort William, Kingston, Fort William
310,000 Bushels of Grain (to Kingston)

	Vessel's Cost or Time Charter Rate		
	\$2,200,000 or (1955)	\$2,550,000 or (1959)	Time Charter at \$4.00
	\$1,102 per day	\$1,192 per day	\$1,221 per day
<i>Vessel's Cost</i>			
11.9 days (Deep Sea Trade) (\$1,102)	\$13,115 (\$1,192)	\$14,185 (\$1,221)	\$14,530
11.9 days (Lake Trading) (38)	450*(39)	465*(39)	465*
11.9 days (Lake Trading— Add. Wages) (30)	360 (30)	360 (30)	360
	<u>\$13,925</u>	<u>\$15,010</u>	<u>\$15,355</u>
½ day delay allowance	585	630	645
<i>Fuel</i>			
132 tons Diesel at \$42.00 per ton	5,545	5,545	5,545
<i>Miscellaneous</i>			
Fort William	50	50	50
Lake Master	300	300	300
Welland Canal	60	60	60
Kingston	50	50	50
Crew Overtime, Canals	40	40	40
Incidentals	25	25	25
<i>Totals</i>	<u>\$20,580</u>	<u>\$21,710</u>	<u>\$22,070</u>
<i>Cost per bushel</i> (310,000 bu.)	6.639¢	7.003¢	7.119¢

*Additional cost to compensate for Lake trading.

Time Factors

	Miles	Steaming		Port	Total
		Full	Reduced		
Fort William				36 hrs.	36 hrs.
to	1045	51 hrs.	56 hrs.		107 hrs.
Kingston				36 hrs.	36 hrs.
to	1045	51 hrs.	56 hrs.		107 hrs.
Fort William					
	<u>2090</u>	<u>102 hrs.</u>	<u>112 hrs.</u>	<u>72 hrs.</u>	<u>286 hrs.</u>

Fuel Consumed

In loaded condition	(20 tons per day)	42.3 tons
In ballast condition	(16 tons per day)	34.0 tons
In reduced speed operating	(10 tons per day)	46.7 tons
		<u>123.0 tons</u>
In Port	(3 tons per day)	9.0 tons
Total fuel for voyage		<u>132.0 tons</u>

Reduced speed operating time includes time taken to pass through canals, locks, also approaching and leaving ports, bunkering and all other times when vessel is unable to operate at maximum speed.

We have assumed overall consumption at the rate of 10 tons per day in the case of the 9,000 ton vessel, and 13 tons per day in the case of the 18,500 ton vessel for these operations for estimating purposes.

9,000 DWT VESSEL
Seven Islands, Montreal (B), Ashtabula, Seven Islands
8,595 Tons Iron Ore (to Ashtabula)

	Vessel's Cost or Time Charter Rate		
	\$2,200,000 or (1955) \$1,102 per day	\$2,550,000 or (1959) \$1,192 per day	Time Charter at \$4.00 \$1,221 per day
<i>Vessel's Cost</i>			
10.4 days (Deep Sea Trade)	(\$1,102) \$11,460	(\$1,192) \$12,395	(\$1,221) \$12,700
10.4 days (Lakes Trading)	(38) 395*	(39) 405*	(39) 405*
10.4 days (Add. wages— Lakes Trading)	(30) 310	(30) 310	(30) 310
	\$12,165	\$13,110	\$13,415
½ day allowance delays	585	630	645
<i>Fuel</i>			
134 tons at \$37.50 per ton	5,025	5,025	5,025
<i>Miscellaneous</i>			
Seven Islands (in and out)	450	450	450
Montreal (B)	300	300	300
Canal Pilots	120	120	120
Lake Master	195	195	195
Welland Canal	60	60	60
Ashtabula	50	50	50
Crew Overtime, Canals	150	150	150
Seven Islands	—	—	—
<i>Totals</i>	<u>\$19,100</u>	<u>\$20,090</u>	<u>\$20,410</u>
<i>Cost per ton</i> † (8,595 tons)	\$ 2.222	\$ 2.337	\$ 2.375

B—Bunkering. *Additional cost to compensate for Lakes trading. †Ton 2,240 lbs.
Note: No allowance made for Seaway tolls.

Time Factors

	Miles	Steaming		Port	Total
		Full	Reduced		
Seven Islands to	970	55 hrs.	58 hrs.	12 hrs.	12 hrs. 113 hrs.
Ashtabula to	970	55 hrs.	58 hrs.	12 hrs.	12 hrs. 113 hrs.
Seven Islands	<u>1,940</u>	<u>110 hrs.</u>	<u>116 hrs.</u>	<u>24 hrs.</u>	<u>250 hrs.</u>

Fuel Consumed

In loaded condition	(20 tons per day)	46.0 tons
In ballast condition	(16 tons per day)	36.7 tons
In reduced speed operating	(10 tons per day)	48.3 tons
		131.0 tons
In Port	(3 tons per day)	3.0 tons
Total fuel for voyage		<u>134.0 tons</u>

Reduced speed operating time includes time taken to pass through canals, locks, also approaching and leaving ports, bunkering and all other times when vessel is unable to operate at maximum speed.

We have assumed overall consumption at the rate of 10 tons per day in the case of the 9,000 ton vessel, and 13 tons per day in the case of the 18,500 ton vessel for these operations for estimating purposes.

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9,000 DWT VESSEL Ashtabula, Montreal, Ashtabula 8,680 Tons Coal (to Montreal)

	Vessel's Cost or Time Charter Rate		
	\$2,200,000 or (1955)	\$2,550,000 or (1959)	Time Charter at \$4.00
	\$1,102 per day	\$1,192 per day	\$1,221 per day
<i>Vessel's Cost</i>			
8.3 days (Deep Sea Trade)	(\$1,102) \$ 9,145	(\$1,192) \$ 9,895	(\$1,221) \$10,135
8.3 days (Lakes Trade)	(38) 315*	(39) 325*	(39) 325*
8.3 days (Add. wages— Lakes Trade)	(30) 250	(30) 250	(30) 250
	\$9,710	\$10,470	\$10,710
½ day allowance delays	585	630	645
<i>Fuel</i>			
84.4 tons at \$37.50	3,165	3,165	3,165
<i>Miscellaneous</i>			
Ashtabula	50	50	50
Welland Canal	60	60	60
Canal Pilots	120	120	120
Lake Master	195	195	195
Crew Overtime, Canals	150	150	150
Montreal	225	225	225
<i>Total</i>	<u>\$14,260</u>	<u>\$15,065</u>	<u>\$15,320</u>
<i>Cost per ton† (8,680 tons)</i>	<u>\$ 1.643</u>	<u>\$ 1.736</u>	<u>\$ 1.765</u>

*Additional Cost to compensate for Lakes trading. †Ton 2,240 lbs.

Note: No allowance made for Seaway tolls.

Time Factors

	Miles	Steaming		Port	Total
		Full	Reduced		
Ashtabula				12 hrs.	12 hrs.
to	480	18 hrs.	63½ hrs.		81½ hrs.
Montreal				24 hrs.	24 hrs.
to	480	18 hrs.	63½ hrs.		81½ hrs.
Ashtabula					
	<u>960</u>	<u>36 hrs.</u>	<u>127 hrs.</u>	<u>36 hrs.</u>	<u>199 hrs.</u>

Fuel Consumed

In loaded condition	(20 tons per day)	15.0 tons
In ballast condition	(16 tons per day)	12.0 tons
In reduced speed operation	(10 tons per day)	52.9 tons
		79.9 tons
In port	(3 tons per day)	4.5 tons
Total fuel for voyage		<u>84.4 tons</u>

Reduced speed operating time includes time taken to pass through canals, locks, also approaching and leaving ports, bunkering and all other times when vessel is unable to operate at maximum speed.

We have assumed overall consumption at the rate of 10 tons per day in the case of the 9,000 ton vessel and 13 tons per day in the case of the 18,500 ton vessel for these operations for estimating purposes.

15,000 DWT VESSEL (LAKE TRADING)

Fort William, Kingston, Fort William
516,000 Bushels of Grain (to Kingston)

	Vessel's Cost or Time Charter Rate		
	\$4,000,000 or (1955) \$1,606 per day	\$4,600,000 or (1959) \$1,757 per day	Time Charter at \$3.25 \$2,028 per day
<i>Vessel's Cost</i>			
13.4 days (Deep Sea Trade)	(\$1,606)	\$21,520 (\$1,757)	\$23,545 (\$2,028)
13.4 days (Lake Trading)	(50)	670* (54)	670* (54)
13.4 days (Add. wages— Lake Trading)	(33)	440 (33)	440 (33)
		\$22,630	\$24,655
			\$28,180
½ day delay allowance	845	920	1,060
<i>Fuel</i>			
179 tons at \$42.00 per ton	7,520	7,520	7,520
<i>Miscellaneous</i>			
Fort William	50	50	50
Lake Master	300	300	300
Welland Canal	60	60	60
Kingston	50	50	50
Crew Overtime, Canals	40	40	40
Incidentals	25	25	25
Totals	\$31,520	\$33,620	\$37,285
Cost per bushel (516,000 bu.)	6.109¢	6.515¢	7.226¢

*Additional cost to compensate for Lake trading.

Time Factors

	Miles	Steaming		Port	Total
		Full	Reduced		
Fort William to Kingston	1045	51 hrs.	56 hrs.	54 hrs.	54 hrs. 107 hrs.
Kingston to Fort William	1045	51 hrs.	56 hrs.	54 hrs.	54 hrs. 107 hrs.
	2090	102 hrs.	112 hrs.	108 hrs.	322 hrs.

Fuel Consumed

In loaded condition	(26 tons per day)	55.0 tons
In ballast condition	(21 tons per day)	45.0 tons
In reduced speed operating	(13 tons per day)	61.0 tons
		161.0 tons
In Port	(4 tons per day)	18.0 tons
Total fuel for voyage		179.0 tons

Reduced speed operating time includes time taken to pass through canals, locks, also approaching and leaving ports, bunkering and all other times when vessel is unable to operate at maximum speed.

We have assumed overall consumption at the rate of 10 tons per day in the case of the 9,000 ton vessel, and 13 tons per day in the case of the 18,500 ton vessel for these operations for estimating purposes.

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15,000 DWT VESSEL (LAKES TRADING) Seven Islands, Montreal (B), Ashtabula, Seven Islands 14,545 Tons Iron Ore (to Ashtabula)

	Vessel's Cost or Time Charter Rate		
	\$4,000,000 or (1955)	\$4,600,000 or (1959)	Time Charter at \$3.25
	\$1,606 per day	\$1,757 per day	\$2,028 per day
<i>Vessel's Cost</i>			
11.0 days (Deep Sea Trade) .. (\$1,606)	\$17,665	(\$1,757)	\$19,325 (\$2,028)
11.0 days (Lakes Trading) .. (50)	550*	(54)	595*(54)
11.0 days (Add Wages — Lakes Trading) ... (33)	365 (33)	365 (33)	365
	<u>\$18,580</u>	<u>\$20,285</u>	<u>\$23,270</u>
½ day delay allowance	845	920	1,060
<i>Fuel</i>			
177.1 tons \$37.50 per ton	6,640	6,640	6,640
<i>Miscellaneous</i>			
Seven Islands (in and out)	450	450	450
Montreal (B)	300	300	300
Canal Pilots	120	120	120
Lake Master	195	195	195
Welland Canal	60	60	60
Ashtabula	50	50	50
Crew Overtime, Canals	150	150	150
Seven Islands	—	—	—
<i>Totals</i>	<u>\$27,390</u>	<u>\$29,170</u>	<u>\$32,295</u>
<i>Cost per ton</i> (14,545 tons)	\$ 1.883	\$ 2.006	\$ 2.220

B—Bunkering *Additional cost to compensate for Lakes trading.

Note: No allowance made for Seaway tolls.

Time Factors

	Miles	Steaming		Port	Total
		Full	Reduced		
Seven Islands				20 hrs.	20 hrs.
to	970	55 hrs.	58 hrs.		113 hrs.
Ashtabula				20 hrs.	20 hrs.
to	970	55 hrs.	58 hrs.		113 hrs.
Seven Islands					
	<u>1940</u>	<u>110 hrs.</u>	<u>116 hrs.</u>	<u>40 hrs.</u>	<u>266 hrs.</u>

Fuel Consumed

In loaded condition	(26 tons per day)	59.6 tons
In ballast condition	(21 tons per day)	48.1 tons
In reduced speed operating	(13 tons per day)	62.8 tons
		<u>170.5 tons</u>
In Port	(4 tons per day)	6.6 tons
Total fuel for voyage		<u>177.1 tons</u>

Reduced speed operating time includes time taken to pass through canals, locks, also approaching and leaving ports, bunkering and all other times when vessel is unable to operate at maximum speed.

We have assumed overall consumption at the rate of 10 tons per day in the case of the 9,000 ton vessel, and 13 tons per day in the case of the 18,500 ton vessel for these operations for estimating purposes.

15,000 DWT VESSEL (LAKES TRADING)

Ashtabula, Montreal, Ashtabula
14,645 Tons Coal (to Montreal)

	Vessel's Cost or Time Charter Rate		
	\$4,000,000 or (1955)	\$4,600,000 or (1959)	Time Charter at \$3.25
	\$1,606 per day	\$1,757 per day	\$2,028 per day
<i>Vessel's Cost</i>			
9.3 days (Deep Sea Trade) .. (\$1,606)	\$14,935	(\$1,757) \$16,340	(\$2,028) \$18,860
9.3 days (Lakes Trade) (50)	465*	(54) 500*	(54) 500*
9.3 days (Add. wages — Lakes Trade) (33)	310	(33) 310	(33) 310
	<u>\$15,710</u>	<u>\$17,150</u>	<u>\$19,670</u>
½ day delay allowance	845	920	1,060
<i>Fuel</i>			
114 tons at \$37.50 per ton	4,275	4,275	4,275
<i>Miscellaneous</i>			
Ashtabula	50	50	50
Welland Canal	60	60	60
Canal Pilots	120	120	120
Lake Master	195	195	195
Crew Overtime, Canals	150	150	150
Montreal	300	300	300
Totals	<u>\$21,705</u>	<u>\$23,220</u>	<u>\$25,880</u>
Cost per ton† (14,645 tons)	\$ 1.482	\$ 1.586	\$ 1.767

*Additional cost to compensate for Lake trading.

†Ton 2,240 lbs.

Note: No allowance for Seaway tolls.

Time Factors

	Miles	Steaming		Port	Total
		Full	Reduced		
Ashtabula				20 hrs.	20 hrs.
to	480	18 hrs.	63½ hrs.		81½ hrs.
Montreal				41 hrs.	41 hrs.
to	480	18 hrs.	63½ hrs.		81½ hrs.
Ashtabula					
	<u>960</u>	<u>36 hrs.</u>	<u>127 hrs.</u>	<u>61 hrs.</u>	<u>224 hrs.</u>

Fuel Consumed

In loaded condition	(26 tons per day)	19.5 tons
In ballast condition	(21 tons per day)	15.7 tons
In reduced speed operating	(13 tons per day)	68.8 tons
		<u>104.0 tons</u>
In port	(4 tons per day)	10.0 tons
Total fuel for voyage		<u>114.0 tons</u>

Reduced speed operating time includes time taken to pass through canals, locks, also approaching and leaving ports, bunkering and all other times when vessel is unable to operate at maximum speed.

We have assumed overall consumption at the rate of 10 tons per day in the case of the 9,000 ton vessel and 13 tons per day in the case of the 18,500 ton vessel for these operations for estimating purposes.

APPENDIX XIII

Report to the Royal Commission on Coasting Trade in Regard to Questions Respecting Exhibits 200, 201, 202 and 222

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PREAMBLE

In the endeavour to form replies to the questions asked it has been our object to secure as much relevant and factual data as possible which, together with our accumulated general experience in the field of consulting naval architecture, serves as the basis for our considered opinions appearing in the answers herein.

QUESTION 1

In general, are vessels C, D, E, F and G practical for operation on both ocean and seaway routes, would they do and would they be suitable for doing what it is said they will do, and would they be worthy of consideration by a U.K. operator contemplating regular competition for cargoes to be moved on the Great Lakes?

Answer to Question 1

(Ref. Nos. 1, 2 and 3)

Yes, we consider vessels C, D, E, F and G in general are practical for operation on both seaway and ocean routes, and are suitable for the carriage of grain, ore, oil and other bulk and general cargoes as the case may be.

It will be noted, however, from references #1 and #2 that the net cost per ton deadweight carried varies with these different vessels, and thus competitive conditions could rule out certain of the vessels for practical operation.

From the technical point of view, however, the vessels could operate and would be practical on these services. Certain concessions would have to be made in their design, of course, to enable them to compete at lake ports and take full advantage of their size and capacity, such as care in the design of hatch layouts to suit lake elevators, care in the layout of mooring arrangements to facilitate handling the vessels at lake ports etc. These considerations would not be inconsistent with suitable layouts for the oceangoing portion of their service.

In the case of the three larger vessels, E, F and G, the speed and power used for purposes of general comparison are somewhat lower than in the prevailing present day practice for oceangoing vessels of this type. These vessels would no doubt be designed with from 50% to 150% more power if undertaken today, and it will be observed from Reference #3 that this would be in line with current designs. The main reason for this extra power is due to the fact that the vessels will thereby make more trips per season, which is an advantage in the deep sea ore trades particularly since it is often the case that the vessels so engaged operate one direction in ballast. Since time need not be lost in deviation and loading a return cargo the actual time at sea is much greater compared to the vessel with a return cargo, and the speed of the vessel is consequently a more important factor in gaining additional voyages per season.

In order to test the economic effect of greater speed of such a vessel engaging in the Wheat and Ore movements under present consideration, a calculation has been made based upon a vessel of type similar to F, but with greater power, and suitable for a seagoing speed of 14.76 knots (17.0 statute miles per hour) at a seagoing draught of 32'-0". It is considered that such a vessel would be in line with current trends as regards speed. For operation on seaway service this vessel, which has been designated FF, has been taken to operate at 17.0 statute miles per hour at a seaway draught of 25'-6" which speed would be in line with recent lakers such as the "T.R. McLAGAN". Consequently, vessel FF has been considered as operating at something less than its maximum speed on seaway draught and is directly comparable to vessels H, I and J.

It will be noted that while the faster vessel (FF) does not show up as well as vessel F for either the Wheat or Ore movements, it is nevertheless superior to vessel H. The relatively poor showing of vessel FF as compared to vessel F may be attributed to a very large degree to the high percentage of their time that these vessels spend in port on the Wheat and Ore movements being considered. To a lesser degree vessel FF is penalized in carrying a significantly smaller deadweight on the given draught than is carried by vessel F, a factor which would be of reduced importance on deeper seagoing draughts. Higher capital cost of the more powerful machinery plant of vessel FF also works against the vessel for these services, and as remarked in regard to deadweight, this factor would be of less importance for vessels when operating on deeper draughts and carrying greater deadweight.

A second principal difference between the three vessels, E, F and G, and actual vessels in the same tonnage class, is the rather high length/depth ratio for oceangoing service. More will be said about this feature in the answer to Question 2, but our conclusion in the matter is that the vessels could be designed to conform to Classification requirements although special consideration would be necessary.

If, however, such approval could not be obtained on submission of specific design, shorter vessels would have to be considered. The length of these would be about 624 feet in lieu of 640, and the relative economy of the shorter vessels would probably not be very different from those actually considered in this study.

References #1 and #2 set out our views as to the comparative performance of these vessels and standard present-day lake type vessels in the Wheat and Ore movements of Exhibit 200, showing in addition the original Canada Steamship Lines' data. The main points of difference between our estimates and those of the C.S.L. are explained in References #1(a) and #2(a).

With the possible exception of vessel E, which is considerably larger than the majority of dry cargo vessels operating on ocean routes, and is of somewhat non-standard proportion as regards length/depth ratio, we believe they would be worthy of consideration by a U.K. operator for services as mentioned on the Great Lakes and ocean route.

QUESTION 2

Do the vessels conform to technical requirements of official bodies, Classification societies, etc. for oceangoing and Great Lakes vessels?

Answer to Question 2

(Ref. Nos. 3 and 4)

All of the vessels under consideration have principal dimensions and particulars within the scope of standard official and classification requirements for the Great Lakes and could therefore be designed to conform to the standard requirements of the Great Lakes, and it will be observed from the tabulation of particulars of certain lake vessels, in Ref. #3, that vessels of length/depth ratios of up to 18.75 have in fact been built. As regards other principal dimensions of vessels C, D, E, F and G,

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these will be seen to be generally within lake practice except for depth. The depth (44 feet), though it exceeds standard Laker depths, is considered however to be satisfactory for use on the wheat and ore movements.

Furthermore, vessels C and D are close to normal proportions for oceangoing vessels. A publication issued in July 1955 by the U.S. Department of Commerce, entitled "New Ship Designs" (Reference #4), shows the proposed new "Freedom" Class and "Clipper" cargo ships are actually quite comparable to vessels C and D as regards overall dimensions. It is considered therefore that these vessels would conform to standard requirements of official bodies for such service.

Vessel E is not within the standard length/depth ratios considered in the Load Line Rules for which the range of length/depth ratios extends from 10 to 13.5 for oceangoing vessels. Shelter deck vessels of type C, D and E, due to the nature of their cargo requirements, normally fall into the 10 to 12 (length/depth ratio) range, e.g., Lloyd's basic depth for a vessel 640 feet in length is 60 feet or 10.7 length/depth ratio. It will be noted that the length/depth ratio for vessel E is 14.55. It should also be noted, however, that the Load Line regulations are based upon a certain standard of strength and seek to avoid abnormal proportions by the selection of range of length/depth ratios mentioned. Vessels whose proportions are outside these limits can usually be approved provided it is shown to the satisfaction of the Load Line assigning authority (the Classification Society) that the strength and freeboard requirements of the authority are met in the proposed design. It is our considered opinion that the proportions for vessel E are not extreme and the vessel could be designed without difficulty to receive Classification approval. It may be observed, however, that this opinion could only be properly supported by submission of a test case to the Load Line assigning authority for consideration and approval.

Vessels F and G are also outside the range for length/depth ratio of oceangoing vessels and would require special consideration by the assigning authority. However, being of the single deck bulk carrying type, these vessels' proportions would normally be worked out in accordance with Rules for Vessels Carrying Petroleum in Bulk, where length/depth ratios approaching 13.5 are common. Classification Rules acknowledge this fact in effect by setting up as a basis standard in the Rules length/depth ratios for vessels of this size of about 13.1, e.g., 47.5 feet depth for a vessel 620 ft. long. As with vessel E, however, special approval is required for the smaller depths though the depth proposed for these vessels is such that there should, in our opinion, be little difficulty in obtaining such approval. As a measure of comparison it may be noted that the "BOMI HILLS", an ore carrier in the Africa-U.S.A. service, measures 600 feet between perpendiculars by 80 ft. breadth by 43 ft. depth, a length/depth ratio of 13.95. Again, the Hanna class ore carriers, for service from Seven Islands to the east coast ore ports are 630 ft. long between perpendiculars by 87 ft. breadth by 45 ft. 6 ins. depth, a length/depth ratio of 13.85. Reference to vessel F shows the proposed dimensions to be about 640 ft. between perpendiculars by 73 ft. breadth by 44 ft. depth (length/depth ratio of 14.55), and it will be noted that the depth is very close to the two actual vessels.

QUESTION 3

Would their physical performance in both ocean and inland trades be acceptable, having regard not only to weather and wave action but also to loading and unloading facilities to be used and any other service considerations?

Answer to Question 3

(Ref. Nos. 3 and 4)

It is considered that their physical performance would be acceptable in both ocean and inland trades, having regard not only to weather and wave action but also to loading and unloading facilities to be used, and general strength considerations.

It may be observed from details listed in the technical paper "Modern Ore Carriers" attached to this report as Reference #3, that the ore and grain carrier vessel F differs from typical Lakers in the matter of depth and in a rather lower power than will be found in the lakes vessels of comparable size. Vessel F differs from oceangoing ore carriers principally as regards breadth and in its somewhat lower power. Neither of these differences as they appear are of sufficient magnitude to be detrimental to vessel F's performance as regards wind and wave action at sea. Loading and unloading arrangements of vessel F would be a matter for detail design but it is considered that a suitable arrangement for both oceangoing service and Lakes service could be worked out. Strength of vessel F for sea service would require to be specially considered due to her somewhat non-standard length/depth ratio but it is considered that this feature could be dealt with without difficulty during the design stages. The same remarks may be applied to vessel G.

Vessels C and D are very common types in regard to most of their features except for the fact that the machinery is arranged aft. This practice, of course, has been very common to-date for specialized bulk carriers such as for ore and oil, both for oceangoing and for lake vessels. For the oceangoing shelterdecker, however, the practice to-date has been very largely in favour of the machinery amidships arrangement. It will be seen from "New Ship Designs" (Ref. 4) and "On Design of Economic Tramp Ships" (Ref. 5) that the thinking for modern tramp and shelterdeck vessels is leaning toward the machinery aft arrangements, in order to gain the best portion of the hull for cargo hold space, i.e. the midships portion. With modern compact machinery arrangements the engine room can now be moved to the more restricted stern area, at least for any but higher speed vessels where the finer stern might make such an arrangement impracticable. It is considered that the arrangement proposed for vessels C and D, provided suitable ballasting arrangements are included in the design for proper trim and suitable seagoing qualities when running in ballast, are satisfactory for wind and weather action on both Lakes and ocean service.

As regards cargo handling facilities, it is fairly clear that the arrangements on vessels of this type are not ideal for grain and ore service, particularly on the Great Lakes, where a clear run of deck with properly spaced hatches is preferable. This fact has been considered in the calculations concerning the comparative performance of the vessels (reference sheets 1 and 2) where a penalty in loading time has been applied against vessels C, D and E. It is considered, however, that they would be acceptable with regard to loading and unloading facilities likely to be used, though care must be taken in the design stages to ensure an optimum arrangement of hatches and cargo handling gear on board.

Vessel E would be a very uncommon vessel if built, but this is due to the fact that very few shelterdeck type tramp ships have been built of comparable size probably because the prospects for keeping such a vessel in continued employment in the tramp trade are very small. Her behaviour at sea, as regards waves and weather, however, would be quite satisfactory. Her cargo handling arrangements could be made operable on the Great Lakes, with the same provisions as mentioned for vessels C and D. Special approval would be required from the Classification society for her structural design due to her somewhat low depth, but it is felt that this could be obtained in the design stages. (See answer to Question 2.) Her physical performance in ocean ports would be satisfactory in ports where berthing facilities are large enough, but her large size would certainly result in a degree of inflexibility, as regards ocean tramp operations which might make her unattractive to the tramp operator.

QUESTION 4

Are there many such ships or similar ships now in existence or under construction or planned in the near future?

Answer to Question 4

(Ref. Nos. 9 and 13)

With the exception of vessel E we consider that there is a significant number of similar vessels now in existence and being planned for the future. It is considered that vessels F and G as proposed are near enough to actual vessels in service today, as regards their overall dimensions and proportions, to enable us to state that they are comparable.

Vessels similar in general size to "C" and "D" are shown in United States thinking (Ref. 4) as the new proposed "Clipper" and "Seafarer" classes which though faster vessels are otherwise quite similar. Dr. Corlett's paper "Design of Economic Tramp Ships" indicates like thinking, but for somewhat slower vessels. A breakdown of ocean tramp vessels in categories of capacity (Ref. 13) shows that as at December 1st 1955 large numbers of tramp vessels in the C and D categories were under construction, of which most were to be propelled by diesel machinery as is the case with vessels C and D. While there are no actual dimensions given with the individual vessels listed in this breakdown it is safe to say that the majority of the vessels would be similar in type. Machinery in the majority of cases would be toward amidships rather than aft, but as mentioned in the answer to question 3 it is considered there is a growing trend toward the machinery aft arrangement.

It is of interest to note from the table (Ref. 13) that several vessels of tramp type (shelterdecker probably not unlike vessel E) of deadweight capacities ranging from 16,100 to 19,000 tons were also under construction at this time. However, the number of these represented about 1.25 percent of the total and tends to confirm the limited possibilities for such vessels in ocean trades.

An indication can also be gained of the relative numbers of such vessels (C, D and E) which were in operation in 1953 on ocean routes from the data given in reference 9 "Number of Dry Cargo Vessels as of Year 1953, in Major Deadweight Capacity Categories". These vessels will include specialized bulk ore carriers, cement carriers, sugar carriers, etc., but the majority will be of the tramp shelterdeck type and again it will be observed that a large number are of the C and D vessel sizes (from 10,000 to 14,500 tons deadweight) and very few of the larger size such as vessel E.

It will be seen from the paper "Modern Ore Carriers" that vessels of F and G types are not unusual, though we are unable to say how many would be in operation at the present time. It may be noted that in addition to the bulk carriers described in the above paper (Ref. 3) that reference numbers 6 and 15 give data on several more somewhat smaller combined type grain and ore or grain and coal carriers built or on order from Swedish Builders. These vessels are similar to vessel F except for their slightly smaller size and higher speed.

The dual type vessel for ore and bulk liquid cargoes such as vessel G is also becoming more common and is represented in ocean trades by the SS. "Californian", "Bomi Hills", "Chateaugay" and "Soya Atlantic" and others (Ref. 3). These vessels are all fairly comparable to vessel G except for comparatively minor differences of dimension and speed which also differ amongst the various vessels mentioned. It should be noted that this type of specialized vessel, while entirely suitable for this dual service are yet comparatively recent types and limited in number.

QUESTION 5

Are the data given concerning all vessels A to G consistent with one another and with your own knowledge as regards:

- (a) dimensions
- (b) cargo capacity in long tons and in bushels (volume), at 25'-6" fresh water draught and at given salt water draughts
- (c) power, speed and fuel consumption
- (d) cost of construction in a typical U.K. yard, and a typical Canadian yard
- (e) operating costs on U.K. registry and on Canadian registry
- (f) annual rate at which depreciation and interest charged
- (g) any other relevant matter

insofar as these can be checked conveniently, short of drawing plans and making a detailed engineering study?

Answer to Question 5

(a) The data given concerning all vessels A to G are generally consistent with one another in regard to dimensions, and by this we mean that the basis dimensions of the vessels are such as would be reasonably consistent with the capacity, speed and power freeboard and deadweight capacity stated. This opinion is conditioned somewhat, however, by the fact that we believe the deadweight capacities given for vessels C and D and to a lesser extent vessels E, F and G are conservative. This applies particularly to vessel C. It will be noted that references 1 and 2 make appropriate corrections and give figures based on revised capacity estimates.

(b) The cargo capacities stated, both in bushels and in long tons, are suitable for the fresh water and given salt water draughts.

(c) The power and speed estimates are considered to be fair estimates and mutually consistent. Fuel consumptions, however, are found to be rather liberal and revised estimates have been included in references 1 and 2.

(d) The cost of construction as estimated by us for Canadian yards agreed reasonably well with the given data for all except vessels D and E. We do not consider the difference in the case of vessel D is very significant, since detailed information on all of these vessels is of course very limited and the estimates are of necessity not of a detailed nature. In addition, the difference of approximately 10% between the two estimates comes within the usual differences between actual prices submitted by shipyards based on far more detailed information. Such a variation does not in itself have any appreciable effect upon the final relative comparisons.

The difference, however, between the estimate for vessel E and the given data is more significant, being in the order of 15%, and does have more of an effect upon the final cost comparisons on a "cost per ton" or "cost per bushel" basis.

In the case of estimates of cost in British shipyards an average differential has been assumed to be 2/3, that is, the British price is assumed to be 2/3 of the Canadian price. On the basis of our accumulated general experience it is considered that this average differential is reasonably representative for all of the vessels under consideration.

It should be noted that the cost estimates for construction of these vessels both in the United Kingdom and Canada are based on wages and prices prevailing in 1955 and do not include allowances for possible escalation on materials or wage rates.

It is of interest to note that recently published figures for the approximate costs of new dry cargo ships in the 10,000 deadweight class (similar to vessel C) tend to support the estimate of the U.K. price for vessel C given in Reference #1 (see "European Shipbuilding Prices"—Reference #8), while others tend to indicate that this estimate of price may be high (References #7, 11 and 16).

Still another recent press release, not included in this report as a reference, noted that approximately 100 similar design dry cargo vessels of the 10,000 ton class (similar

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to vessel C), are now under construction in British and European shipyards at prices ranging from \$2,000,000. to \$2,400,000. These vessels are somewhat smaller in dimensions than vessel C, as follows:

	<i>New Vessels</i>	<i>Vessel C</i>
Length B.P.	430'-0"	445'-0"
Breadth	60'-9"	62'-0"
Depth	40'-6"	39'-9"
Cubic capacity	600,000 cu. ft.	740,000 cu. ft.
Speed	14 knots	12½ knots
Machinery	Diesel	Diesel

Lower prices should be expected for these vessels than for vessel C, due to the effect of quantity production.

(e) We do not have the extensive and closely detailed records of operating costs for wages, provisions, etc., such as have been submitted to the Commission by the vessel operators, but to the best of our knowledge on this subject the estimates appear to be reasonable. We would not expect to find any large discrepancies which might alter the relative position as regards cost per ton-mile.

(f) The annual rate at which depreciation appears to have been charged on the given data is 5% per annum for ocean-going vessels, and 4% per annum for Great Lakes vessels, both of these depreciations being on a straight line basis. As is well known, Canadian income tax regulations permit depreciation to be written off at 15% on the reducing balance method, though it is common practice for Canadian operators to use the straight line method at the percentages mentioned above. British income tax regulations on the other hand allow depreciation to be written off at 5% per annum on a straight line basis, with a slightly higher rate for tankers. To the best of our knowledge, therefore, the rates used in the given data are suitable. In the case of oceangoing vessels, C, D, E and F and G, the portion of depreciation charged against Lake operations is taken as 230/330 and 210/330 for the wheat and ore movements respectively as explained in Ref. 1(a) and 2(a).

As regards interest, it is considered that 2½% would be a reasonable assumed average rate of interest for such an investment of capital which is being amortized over a period of, say, twenty years.

(g) As mentioned before under question 3, it may be noted that the proposed dry cargo, shelter deck type vessels C, D and E are arranged with machinery aft, a feature which, while common practice on the Great Lakes, has not been so for sea-going vessels. However, several such vessels have been put into service in recent years and there is an increasing trend toward this arrangement. It is considered that such an arrangement is entirely practical for the vessels under consideration. Since it is already common practice for sea-going bulk carriers such as vessels F and G to be arranged with machinery aft, these remarks are confined to vessels C, D and E.

QUESTION 6

In what trades outside of the Great Lakes might vessels C to G find employment during the winter? Would it take only a few or a considerable number of such vessels regularly seeking winter employment to have a significant depressing effect on winter rates in general and on rates in those trades in particular? Hence, what are the prospects for vessels of each type earning during the winter, (a) at least their variable (out-of-pocket) expenses, (b) their total costs, including a pro rata share of the annual charges for depreciation and interest, plus some contribution towards profit? Can any approximate limit be put on the total number of such vessels that might expect these levels of winter earnings?

Answer to Question 6

(Ref. Nos. 3, 4, 9 and 13)

It is considered that vessels C and D could enter the general tramp trade without difficulty and, in general, it is felt that they would be very suitable for general dry cargo trade anywhere on the world ocean routes. As will be noted from references #9 and #13 these vessels fit into the deadweight category of 10,000 to 15,000 tonners (depending on loaded drafts, whether they are open or closed shelter deck types, etc.) of which over 2,200 were in operation in 1953, and over 300 were under construction as at December 31, 1955. It is considered that the prospects for a number of these vessels finding winter employment would be very good, either as tramp vessels or on charter to integrated companies—paper, cement, ore, aluminum, etc.

Vessel E, while a dry cargo shelter deck type vessel might have some difficulty in finding regular winter employment in any numbers, due to her unusually large size and capacity. It will be noted that in 1953 only 60 dry cargo vessels of over 14,500 tons capacity were afloat, of which it is probable only a very small proportion would be of the 'E' type (shelter deckers) while most would be specialized single deck bulk vessels such as vessel F, compared to a total dry cargo fleet of over 6,000 vessels over 5,000 tons capacity i.e. only 1% of the dry cargo vessels afloat were in excess of 14,500 tons capacity. It will also be observed that only 8 dry cargo vessels of over 16,000 tons capacity were under construction in December 1955 out of approximately 300 of over 5,000 tons capacity, or 2.3%.

Vessel E will also be seen to be somewhat at a disadvantage against vessel F, as will be noted from refs. (1) and (2), on both the wheat and ore movements. The disadvantage is marginal, however, and may to some extent be offset by her somewhat greater flexibility when seeking winter cargoes on ocean routes.

Vessel F represents a type which it is felt would have less difficulty in finding regular employment on regular charters on bulk routes. This vessel is rather typical, in her general character, of many ocean going ore carriers, a few of which would be Hanna class ore carriers, the "Baltore", (ref. 3) and the proposed new Bulk Carriers of the United States Department of Commerce (ref. 4). As has been mentioned in answers to earlier questions, vessel F differs from those vessels principally in her lower speed and power, smaller breadth and her depth. The lower speed might have the effect of acting against her operational efficiency on ocean routes when the trend is toward 14-15 knot vessels to increase the number of round trips per season, but since the winter service would be considered as temporary to help defray expenses the element of profit motive would not be so important on her winter operations. It has been suggested that the probable volume of ore shipments to the United States from such points as Venezuela, Liberia, Chile, Scandinavia, Peru, Cuba and Labrador may reach 50,000,000 tons annually by 1960. This, it is estimated, would require a fleet of 80 vessels of about 25,000 tons capacity, working on a year-round basis. In addition, the carriage of bituminous coal to Europe with return cargoes of ore could provide employment for vessels in this group. Other ocean bulk trades which would be suitable for vessels in category F would be the grain trade from Canada, United States and Argentina and the bauxite trade from Trinidad to Quebec, Trinidad to New Orleans, Jamaica to British Columbia and Jamaica to La Quinta, Texas.

Vessel G represents a type, the combination ore and oil bulk carrier, which is becoming fairly common and is used, we understand, for the carriage of ore to the United States with return cargoes of petroleum to Liberia and alternative cargoes of petroleum from Venezuela. It is considered that the number of such vessels likely to appear on Seaway routes would be comparatively few and there would no doubt be a fairly good chance of some of these finding regular winter employment. Typical of such dual purpose type vessels in operation today are the ss. "Californian", ss. "Bomi

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Hills", ss. "Chateaugay" and ss. "Enduro" and these vessels are all generally comparable to vessel G (Ref. 3). Again, it may be observed that vessel G is somewhat slower than these actual vessels and of less breadth and depth for comparable length. These differences, however, do not render vessel G at all impracticable for ocean operations and their effects on operating economy would be marginal.

Capacities of both vessels F and G are comparable to actual vessels of these types.

It is unlikely that the seasonal introduction to ocean trade routes of Vessels C and D from the Great Lakes would have a depressing effect upon freight rates, but in the case of E, F and G types, where the introduction of a few represents a comparatively large percentage of the total of this type world tonnage a depressing effect on rates could be expected. It would, however, be extremely difficult to assess the magnitude of this effect.

In general, this whole question is one of such complexity that it is not possible within the scope of the report to give a specific answer to the various sub-questions, supported by factual data. It is felt, however, that the introduction of, say, 50 vessels from the Seaway during the comparatively short off-season period into a world fleet of over 6,000 dry cargo vessels of between 5,000 and 30,000 tons capacity would not have any serious depressing effect upon the prevailing freight rates.

References #1, 2, 9 and 13, taken together lead us to the conclusion that next to vessel F, or to U.K. built Lakers such as I, the most serious competition to be expected on the Lakes would naturally derive from vessels in the C class. It will be observed that while the operating economy is not equal to vessel F, it is not very far removed and the difference in general flexibility between the two types for oceangoing trading is considerable. It is seen from the tabulations in Refs. #9 and 13 that very few dry cargo vessels of the capacities of vessels E, F and G are in operation as compared to those of C size and the great majority of such large dry cargo vessels would be F or G types. On the other hand the majority of the dry cargo vessels listed at deadweights less than 14,500 would be tramp type similar to vessels C and D. This is at least partially supported by Ref. #13 which shows the number of tramp (C) type vessels under construction as at December, 1955, from which it will be seen that the number of these vessels in the larger sizes, comparable to vessel E, are very few.

QUESTION 7

What would be the average time lost for drydocking a typical ocean vessel (a) in the years of quadrennial survey, (b) in other years?

Answer to Question 7

(Ref. Nos. 1 and 2)

The average time lost for drydocking a typical ocean vessel (a) in the years of quadrennial survey, would be seven days and (b) in other years, three days. It should be noted that these times are for drydocking time only and do not include deviation to repair ports or other contingent delays.

It may be noted, however, that it is generally considered that on the average an oceangoing vessel will lose from 30 to 35 days from her year in operation due to drydocking for surveys, deviation, damage and other repairs which may have to be carried out. We have, accordingly, entered figures on data sheets Refs. #1 and 2 showing the effect on operating costs of considering the operations on the Great Lakes as bearing a part of the cost of lost time due to the 35 day loss. It is assumed that this would take place during the off season and the share of depreciation chargeable to Lakes operations in the wheat movement is taken on the ratio of 230/330 in lieu of the ratio 230/365 assumed in the given data.

A similar adjustment is made on the ore sheet (ref. 2) for an operating season of 210 days. Since interest is affected in the same way these adjustments have been made for both interest and depreciation on the wheat and ore movements.

In regard to the operating season in the ore movement on the Great Lakes a season of 210 days carrying ore is assumed. In actual practice it is probable the vessels engaged in the ore trade would no doubt take advantage of the full 230 day Lakes season, the difference in operating time being taken up by one or more trips in the grain trade. An adjustment has therefore been made for depreciation and interest on the ore sheet (ref. 2) in the case of the two Laker type vessels to charge up the depreciation and interest in the ore movement in the proportion 210/230 of the total.

QUESTION 8

At what age is it the general practice to scrap and replace dry cargo vessels (a) serving exclusively in salt water (b) serving exclusively on the Great Lakes or St. Lawrence River? What are the corresponding ages for oil tankers on salt and on fresh water? What might be expected as the replacement age for vessels C, D, E, F and G if they were to spend approximately 230 days a year in fresh water and the balance in salt?

Answer to Question 8

To the best of our knowledge it is the general practice to scrap and replace dry cargo vessels (a) serving exclusively in salt water at the age of 25 years and (b) serving exclusively on the Great Lakes or St. Lawrence River at the age of 40 years. These are average figures and in actual practice may be exceeded by appreciable margins. The corresponding ages for oil tankers on fresh and salt water would be about 25 years and 17 years respectively.

The replacement age for vessels C, D, E, F and G spending 230 days a year in fresh water and the balance in salt might be expected to be, in the case of dry cargo vessels about 30-35 years, and, in the case of tankers about 20-25 years.

QUESTION 9

What is the general practice with respect to depreciation policies and rates applied to new vessels on salt water and on the Great Lakes, respectively, and what policy and rate would you consider as corresponding for vessels C to G? Does U.K. practice differ from Canadian to the extent that the conditions of service are comparable (e.g., in ocean service)?

Answer to Question 9

While the Canadian Government allows depreciation on the reducing balance method it is a fact that the general practice among Canadian and U.K. operators is to use the straight line method over a period somewhat less than the anticipated life mentioned in Question 8, e.g., 4% for Canadian operators on the Great Lakes and 5% for deep sea operators. See also Answer to Question 5 (f).

UNIT COST COMPARISON

The principal changes suggested in this report in the detail comparison of the basic vessels listed in the Canada Steamship Line's exhibit 200 are as follows:—

(1) Vessel deadweight capacity on 25' 6" draft:—

Affects mainly the bushel and ore capacities of vessels C and D with a small effect on vessels E, F and G.

(2) Trips per season:—

Affected principally by the differences in bushel and deadweight capacities noted in paragraph (1) above.

(3) Construction cost:—

Affects vessels D and E mainly, with smaller effects on all the other vessels.

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(4) Working days per year:—

The policy suggested in this report, of writing off the fixed charges against 330 days of operation rather than 365 has a similar effect on all the oceangoing vessels C, D, E, F and G. The policy suggested in this report of writing off fixed charges for the Lakers engaged in the ore movement in the ratio of 210/230 days affect unit costs of the Lake vessels. This policy assumes that 20 days per season will be spent by these vessels carrying Lake cargo other than ore.

(5) Wages and Fuel Consumption:—

Alterations in these figures from basic C.S.L. figures as listed in exhibit 200 affect all vessels, though not equally. These changes are explained in Reference #1 (a).

The combined effect of these differences between the data given in exhibit 200 and the estimates made for this report are reflected in the unit costs derived for moving wheat and ore, e.g., costs per ton:

Vessel	Wheat Movement		Wheat Movement	
	C.S.L.	M.G.&G.	C.S.L.	M.G.&G.
A	\$2.29/ton	\$2.35/ton	\$1.33/ton	\$1.33/ton
B	1.79	1.88	.98	1.03
C	1.98	1.92	1.22	1.25
D	1.94	2.02	1.15	1.27
E	1.75	1.93	1.02	1.18
F	1.80	1.84	1.01	1.07
G	—	—	1.06	1.11
H	2.19	2.14	—	1.21
I	—	1.73	—	.94
J	—	1.82	—	1.00
FF	—	1.98	—	1.19

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REPORT TO THE ROYAL COMMISSION ON COASTING TRADE
SUMMARY OF REFERENCES

1. Table of Operating Costs for service from head of Lakes to Kingston—Carrying Grain.
2. Table of Operating Costs for service from Seven Islands to Hamilton—Carrying Ore.
3. **"Modern Ore Carriers"* by J. J. Henry—Presented before the Society of Naval Architects and Marine Engineers, May 1955.
4. **"New Ship Designs"*—The U.S. Department of Commerce, Maritime Administration, July 1955.
5. **"On Design of Economic Tramp Ships"* by Dr. E. C. B. Corlett—Presented before the Institution of Naval Architects, October 1955.
6. **"New Type of Bulk Carrier"* (Ore and Grain)—*Shipping World*, December 28, 1955.
7. Shipbuilding Costs in United Kingdom—Curve of approximate cost of new Dry Cargo Ships from 1945 to 1954, with data on costs to 1956.
8. **"European Shipbuilding Prices"*—*Shipping World*, Page 170, February 8, 1956.
9. Table Showing Number of Dry Cargo Vessels, in Deadweight Capacity Categories, in 1953. Information taken from Lloyd's Appendix to the Register.
10. Grain, Ore and Coal Tonnages moved on the Great Lakes System, 1955. See *"Record Great Lakes Season"*—*Shipping World*, January 1, 1956.
11. **"The Cost of a Cargo Ship"*—*Shipping World*, January 11, 1956.
12. Price of Oil Fuels as at March 1956.
13. Ocean Tramp Vessels under Construction December 1, 1955—in the *"World's Shipyards"*.
14. Canadian Average Weekly Wages and Salaries in Shipbuilding Industry 1949 to 1953.
15. **"Swedish Bulk Carrier Design"*—*Shipping World*, November 9, 1955.
16. **"Financing Tonnage Replacement"*—*Shipping World*, January 18, 1956.
17. **"Norwegian Shipping and Shipbuilding"*—*Shipping World*, January 18, 1956.
18. Wheat Trade—Head of Lakes to Kingston—Vessel FF.
19. Ore Trade—Seven Islands to Hamilton—Vessel FF.

*Not reproduced herewith. (*Ed.*)

Royal Commission on Coasting Trade

Reference No. 1

WHEAT TRADE—HEAD OF LAKES TO KINGSTON

Facing Tables (Insert)

WHEAT TRADE - HEAD OF LAKES TO KINGSTON

Note: C.S.I. figures shown in *italics*. Miles, Kilometers & German figures assume depreciation and interest charged to Lake operation on ratio of 230/70 for vessels C.D.E. and F

BASIS SHIP PARTICULARS AND WHEAT CARRIED IN ONE SUMMER SEASON OF 120 DAYS

Vessel Home Letter	Description of Ship	Speed M.P.H.	Bushel Capacity at 55° F or Less	Round Trip Miles	VOYAGE TIME - HOURS					Tons Weight				
					Running		Unloading		Net Total	Round Trip Including %	Trips per Season	Bushels per Season		Ton-Miles per Season
					Load	Load	Load	Load				per trip	per season	
A	THUNDER BAY	14.4	623,000	2060	171.6	49.6	31.6	242.8	254.9	31.7	13,519,000	16,690	362,170	374,684,000
	CAN.	14.4	623,311**	2060	171.6	49.6	31.6	242.8	254.9	31.7	13,520,000	16,700	362,400	374,711,000
B	THUNDER BAY	14.4	623,000	2060	171.6	49.6	31.6	242.8	254.9	31.7	13,519,000	16,690	362,170	374,684,000
	U.K.	14.4	623,000	2060	171.6	49.6	31.6	242.8	254.9	31.7	13,520,000	16,700	362,400	374,711,000
C	SHELTHER DECKER 445'	14.4	375,100	2060	171.6	32.4	15.4	216.4	232.2	34.3	9,164,000	10,100	245,400	257,770,000
	U.K.	14.4	375,100	2060	171.6	32.4	15.4	216.4	232.2	34.3	9,165,000	10,100	245,400	257,800,000
D	SHELTHER DECKER 405'	14.4	453,400	2060	171.6	42.4	18.5	232.5	244.1	32.6	10,202,000	12,200	275,700	305,994,000
	U.K.	14.4	453,400	2060	171.6	42.4	18.5	232.5	244.1	32.6	10,203,000	12,200	275,700	306,020,000
E	SHELTHER DECKER 640'	14.4	653,300	2060	171.6	50.3	21.0	246.9	259.2	31.3	13,915,000	17,500	372,700	393,425,000
	U.K.	14.4	653,300	2060	171.6	50.3	21.0	246.9	259.2	31.3	13,916,000	17,500	372,700	393,450,000
F	640' ORE AND GRAIN	14.4	638,300	2060	171.6	50.0	22.0	247.6	255.3	31.4	13,787,000	17,100	360,300	381,910,000
	U.K.	14.4	638,300	2060	171.6	49.8	21.8	243.2	251.4	31.6	13,790,000	17,100	360,300	381,935,000
G	640' ORE AND OIL	14.4	—	—	—	—	—	—	—	—	—	—	—	—
	U.K.	14.4	—	—	—	—	—	—	—	—	—	—	—	—
H	T. R. McLAGAN	17.0	765,000	2060	149.6	53.1	26.1	228.8	240.2	33.0	17,995,000	20,490	471,270	487,293,000
	CAN.	17.0	765,000	2060	149.6	53.2	26.2	231.0	242.3	32.8	17,442,000	20,500	467,200	483,083,000
I	T. R. McLAGAN	17.0	765,000	2060	149.6	53.1	26.1	228.8	240.2	33.0	17,995,000	20,490	471,270	487,293,000
	U.K.	17.0	765,000	2060	149.6	53.1	26.1	228.8	240.2	33.0	17,995,000	20,490	471,270	487,293,000
J	T. R. McLAGAN	17.0	765,000	2060	149.6	53.1	26.1	228.8	240.2	33.0	17,995,000	20,490	471,270	487,293,000
	U.K.	17.0	765,000	2060	149.6	53.1	26.1	228.8	240.2	33.0	17,995,000	20,490	471,270	487,293,000

* Approximately

COMPARATIVE OPERATING EXPENSES

Vessel Home Letter	Description of Ship	Where Built	1955 Construction Cost	Flag	Crew	VARIABLE EXPENSES										FIXED EXPENSES				Total Variable Expense	Total Fixed Expense	Total Operating Expense		
						Wages		Fuel		Provisions		Repairs and Maintenance		Supplies, etc.		Overhead	Insurance	Fut-Out and Lay-Up					Depreciation	Interest at 3½%
						\$	\$	\$	\$	\$	\$	\$	\$	\$	\$			\$	\$					
A	THUNDER BAY	CAN.	4,930,000	CAN.	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	716,910	665,300	1,382,210	
B	THUNDER BAY	U.K.	3,750,000	U.K.	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	566,970	540,670	1,107,640	
C	SHELTHER DECKER 445'	U.K.	3,100,000	U.K.	36	18,400	92,100	14,700	22,150	17,000	18,300	36,150	340,400	—	93,400	45,700	140,100	360,500	41,000	401,500	762,000	1,163,500		
D	SHELTHER DECKER 405'	U.K.	3,100,000	U.K.	36	18,400	92,100	14,700	25,900	21,000	18,300	36,150	241,000	—	122,300	61,150	183,450	454,440	41,000	495,440	849,890	1,345,330		
E	SHELTHER DECKER 640'	U.K.	4,800,000	U.K.	36	41,000	199,200	14,700	21,300	21,300	27,500	42,000	309,400	—	99,900	22,200	122,100	500,000	41,000	541,000	941,000	1,482,000		
F	ORE AND GRAIN 640'	U.K.	4,200,000	U.K.	36	41,000	117,700	14,700	35,000	27,300	24,000	64,000	328,400	—	167,300	93,600	260,900	579,900	41,000	620,900	1,200,800	1,779,700		
G	ORE AND OIL 640'	U.K.	4,400,000	U.K.	36	41,000	119,000	14,700	31,900	27,800	23,800	56,700	319,400	—	148,100	14,000	162,100	540,800	41,000	581,800	1,122,600	1,704,400		
H	T. R. McLAGAN	CAN.	5,820,000	CAN.	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	812,110	851,000	1,663,110	
I	T. R. McLAGAN	U.K.	5,820,000	U.K.	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	816,110	800,100	1,616,210	
J	T. R. McLAGAN	U.K.	5,820,000	CAN.	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	800,100	800,100	1,600,200	

COMPARATIVE EXPENSES VERSUS INCOME AND COSTS PER TON AND PER TON-MILE

Vessel Home Letter	Description of Ship	Built and Hull Type	Total Cost	Handling Expense	Total Expense	Total Expense Including Handling	Cost per Bushel	Total Cost	Cost per Ton	Ton-Miles per Season	Cost per Ton-Mile	Income at 7 cents per bushel	Profit per Ton
A	THUNDER BAY	CAN. CAN.	13,510,000 135,300	115,150 125,300	718,500 826,400	834,000 911,700	6.30 6.30	362,170 372,170	2.53 2.59	374,484,000 374,471,000	0.728 0.733	948,730 948,730	64,990 118,100
B	THUNDER BAY	U.K. U.K.	11,510,000 115,150	115,150 125,300	695,300 804,800	810,450 930,100	6.15 6.15	367,730 367,640	2.49 2.50	374,471,000 374,471,000	0.712 0.713	948,730 948,730	64,990 207,300
C	SHELTHER DECKER 445'	U.K. U.K.	5,164,000 51,640	131,460 131,460	380,300 380,300	472,300 472,300	5.15 5.15	265,490 265,490	1.82 1.82	253,770,000 253,770,000	0.166 0.166	648,880 648,880	196,750 196,750
D	SHELTHER DECKER 405'	U.K. U.K.	10,202,000 102,020	102,930 102,930	434,480 434,480	557,600 557,600	5.43 5.43	275,770 275,770	2.03 2.03	285,994,000 285,994,000	0.166 0.166	770,440 770,440	163,680 163,680
E	SHELTHER DECKER 640'	U.K. U.K.	11,915,000 119,150	139,150 139,150	579,900 579,900	675,900 675,900	5.17 5.17	372,700 372,700	1.93 1.93	385,424,000 385,424,000	0.187 0.187	948,730 948,730	210,000 210,000
F	ORE AND GRAIN 640'	U.K. U.K.	11,787,000 117,870	173,710 173,710	540,830 540,830	675,900 675,900	4.92 4.92	360,160 360,160	1.84 1.84	381,919,000 381,919,000	0.179 0.179	948,730 948,730	265,900 265,900
G	ORE AND OIL 640'	U.K. U.K.	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —	— —
H	T. R. McLAGAN	CAN. CAN.	17,995,000 179,950	175,950 175,950	832,310 1,008,260	1,008,260 1,208,360	5.73 5.73	471,270 471,270	2.14 2.14	487,293,000 487,293,000	0.207 0.207	1,231,620 1,231,620	223,900 223,900
I	T. R. McLAGAN	U.K. U.K.	17,442,000 174,420	175,950 175,950	811,000 1,008,260	1,008,260 1,208,360	5.68 5.68	467,200 467,200	2.09 2.09	483,083,000 483,083,000	0.212 0.212	1,231,620 1,231,620	194,400 194,400
J	T. R. McLAGAN	U.K. U.K.	17,995,000 179,950	175,950 175,950	832,310 1,008,260	1,008,260 1,208,360	5.73 5.73	471,270 471,270	2.14 2.14	487,293,000 487,293,000	0.207 0.207	1,231,620 1,231,620	223,900 223,900

Reference No. 1(a)

The principal points of difference between original Canada Steamship Lines' estimates and our own are as follows:

- (1) Deadweight carrying capacity of vessels C and D. For the speed of 14.4 miles per hour our estimates show a deadweight carrying capacity in excess of C.S.L. figures, which appear to be somewhat conservative. The effect of this difference between the two estimates is particularly important for vessel C and it will be seen that the relative position of C compared to D and E is greatly improved.
- (2) Loading and unloading times, trips per season and all calculations for vessels C, D, E and F are affected by difference in deadweight carrying capacities between the given data and the check figures. Vessel H is at variance in the wheat movements in "unloading time" due to an amendment supplied by C.S.L. to their earlier basic makeup of this quantity, in which the figure was reduced by approximately two hours.

Basic loading times used by the C.S.L. were accepted without detailed check due to scarcity of reliable independent data. The figures used contain C.S.L. estimates of "lost time" applicable to each of the various sizes of vessels considered and are based upon C.S.L. voyage data accumulated from a large number of voyages for different sizes of Lake vessels. An assumption implicit in this data is that lost loading time differs with vessels of different size, an assumption which has an appreciable effect upon the final result and which has been accepted for the reason mentioned above.

Basic unloading times as used in C.S.L. figures contain a 10% penalty applied against vessels C, D and E. This penalty is accepted for use in the check figures.

- (3) Price estimates are at variance between estimates by ourselves and C.S.L. in the cases of vessels D and E. Differences in price estimates shown for the remainder of the vessels are not considered to be of importance. It is regretted that no actual cases are known of recent construction of such vessels (D and E) and estimates are therefore unconfirmed by actual cases. Estimates shown are, however, considered to be reasonably close, and in line with our usual practice for estimating U.K. prices. We have taken the U.K. price estimate at 66% of the Canadian price.
- (4) Wages for U.K. registered Upper Laker types such as vessels B and I have been adjusted in our estimate for cost of transporting a crew of men from the U.K. to Canada and of repatriation at the end of the operating season. This adjustment includes two weeks additional wages together with actual cost of their transportation.
- (5) Fuel consumptions are at variance between the check figures and the given data, particularly in the ore movement between vessels C, D, E and F. The difference is not as great in the case of the wheat movement. Similar specific fuel consumption figures were applied to all diesel vessels in both movements and the consumptions calculated in all cases using the same basic assumptions as regards voyage time steaming, reduced speed time, port time, etc. It will be observed that the check figures are greater than the C.S.L. figures in the ore movement, and somewhat smaller in the wheat movement, and it is therefore felt that the basic assumptions used by C.S.L. for calculation of the given data between the ore and wheat movements may be mutually at variance.

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- (6) Repairs and Maintenance. It is noted that the figures allowed are low as compared to the usual average allowance over the life of a ship. The reason for this low figure is explained by C.S.L. as due to the fact that the allowance applies against new vessels. Since we are examining the possibility of competition from the seagoing vessels immediately after the completion of the Seaway, it seems reasonable to make the comparison on the basis of new vessels, and since all cases are treated in the same way we have accepted this method. Accordingly a figure of $\frac{3}{4}$ of 1 percent was adopted for checking purposes as being a reasonably representative average for the first few years for new vessels on Lakes trading rather than the more usual 2 to $2\frac{1}{2}$ % normally adopted as average over the life of a vessel. The approach is in very close agreement with actual allowance used by C.S.L. which works out to approximately 0.743%.
- (7) Figures for overhead have been adjusted to the capital cost, using the same percentage allowances as used by C.S.L. which appear to be fair and reasonable.
- (8) Insurance figures are fairly low as given by C.S.L., but we believe they could be obtained and have therefore accepted these figures, adjusted by us, of course, for differences in first cost. Insurance for vessels E, F and G have been worked out on the same basis as for vessels H, I and J since these vessels are all in the same category as to size. Vessels C and D have been treated on the basis used for vessels A and B for the same reason.
- (9) Depreciation percentage has been assumed at 4% per annum for Lakers and 5% per annum for seagoing vessels, which is a common allowance. Canada Steamship Lines, however, have charged depreciation for the oceangoing vessels on the ratio of 230/365 against the operating season on the Lakes. The remainder has been charged against winter operations on ocean trade. The usual allowance for actual days per year spent operating for oceangoing tonnage is 330 days, the remaining time being an average allowance over the life of the vessel for the time lost in diverting the vessel to and from repair yards, time spent in drydock, repairs, voyage diversion, etc. C.S.L. figures assume this 35 day period of inactivity will be lost during winter operations, but their depreciation is charged in part against this period.
- Milne, Gilmore & German's figure for depreciation charges the total depreciation against the actual operating time of the vessels, which in the case of the seagoing vessels could be assumed to be 330 days per annum on the average. Depreciation has been charged by M.G. & G. against operating time on the Lakes, therefore, in the ratio of 230/330 days.
- (10) Interest figures at $2\frac{1}{2}$ % are adjusted from Canada Steamship Lines' figures for variation in estimates of first cost and also in the case of oceangoing vessels the interest against Lake operation has been charged in the ratio of 230/330 as for depreciation. $2\frac{1}{2}$ % represents a fair average on first cost over the amortization period.
- (11) Handling expenses are based directly on grain capacity of the vessel.

Reference No. 2—Facing Tables (Insert)

ORE TRADE—SEVEN ISLANDS TO HAMILTON

PORT CARRIED BY ONE 6-1/2" STATION OF 210 DAYS

Note: C.S.L. figures shown in *italics*. Milne, Gilmanov & Gorman figures assume depreciation and interest charged to the orc operation on ratio of 210:230 for vessels C, D, E, F, and G, 210:230 for the other vessels (linkers).

ORE CARRIED IN ONE SUMMER SEASON

Reference No. 2(a)

The principal points of difference between original Canada Steamship Lines' estimates and our own estimates are as follows:

- (1) Deadweight carrying capacities, vessels C and D. See remarks on this item in Reference No. 1(a).

It will be noted, however, that in the case of the ore trade all vessels have ample cubic capacity to load to 25' 6", thus resulting in higher deadweight capacity for the Upper Laker vessels, SS. "*Thunder Bay*" and SS. "*T. R. McLagan*" in the ore trade than in the wheat trade.

- (2) Running times for the ore movement were worked out on the basis of an approach somewhat different than the method used by C.S.L. The results were close to C.S.L. figures which were, therefore, adopted. Running times for vessels not specifically included in the given data were calculated according to the check method. It is noteworthy that in the case of the 17 m.p.h. vessels the check method results in shorter running time than the C.S.L. method. That is, by adopting the C.S.L. method for a 17 m.p.h. vessel we would get the following:

$$\begin{array}{r}
 1708 \text{ miles total round trip} \\
 \text{less } 360 \text{ miles round trip Montreal to Kingston} \\
 = 1348 \text{ miles at average sea speed.} \\
 \frac{1348 \text{ miles}}{17 \text{ m.p.h.}} = 79.29 \text{ hours} \\
 \text{add } 50.00 \text{ hours for additional time to} \\
 \text{transverse the Seaway.} \\
 = 129.29 \text{ hours}
 \end{array}$$

whereas it will be seen that a figure of 126.0 hours was actually used for vessels H, I and J. It is considered that this somewhat shorter time would be more correct due to the greater speed such vessels will have in the areas between Kingston and Montreal where speeds will be unrestricted. Accordingly a reduction in the time to transverse the Seaway of 50 hours as applied by C.S.L. has been made for vessels of speeds greater than 14.4 m.p.h. The 50 hour time was checked independently and found to be reasonable for the 14.4 m.p.h. vessels.

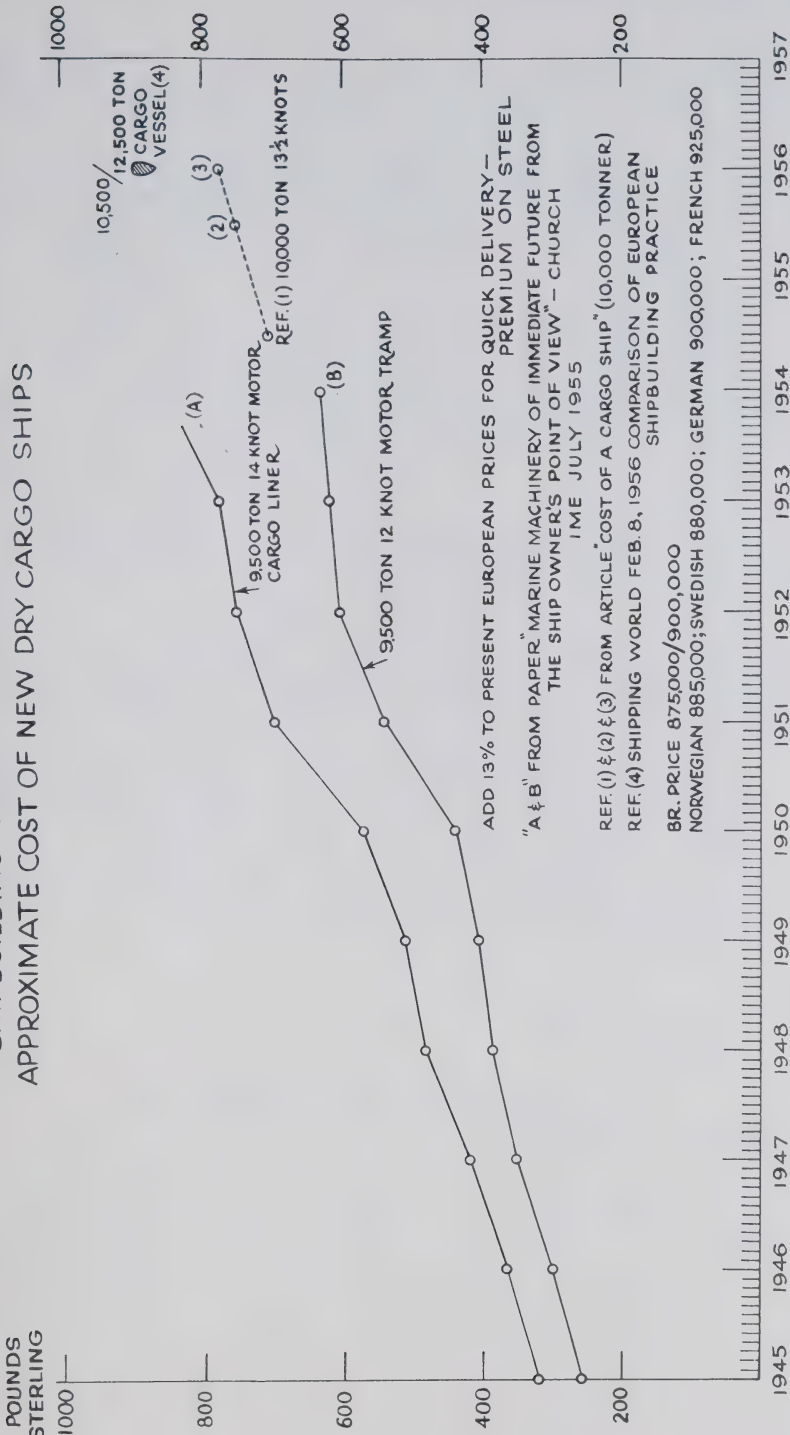
- (3) Basic rates of loading and unloading in tons per hour assumed by C.S.L. in the given data are considered reasonable, and the differences between the two estimates for quantity carried per season are due to differences in the estimated deadweight capacities. It may be noted, however, that an independent check was possible against unloading times using independent data. It was found from this that the penalties against vessels C, D and E assumed in the given data for unloading were reasonable.
- (4) Price estimate discrepancies.
See remarks in Reference No. 1(a), Item 3.
- (5) Wage estimate discrepancies.
See remarks in Reference No. 1(a), Item 4.
In the case of the ore trade an adjustment is made for the shorter season of 210 days, although the full cost of transporting and repatriating crews is included. See also Question 7.
- (6) Fuel consumption discrepancies.
See remarks in Reference No. 1(a), Item 5.

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- (7) Repairs and Maintenance. See remarks in Reference No. 1(a), Item 6. In addition, it is reasonable to allow 10% margin for the more onerous duty in the ore trade, and this more than offsets the saving effect of the slightly shorter season. Calculations based upon Repair and Maintenance in the wheat trade $\times 210/230$ for shorter season plus 10% for harder duty.
- (8) Overhead. See remarks in Reference No. 1(a), Item 7.
- (9) Insurance. See remarks in Reference No. 1(a), Item 8.
- (10) Depreciation. See remarks in Reference No. 1(a), Item 9.
It should be noted that an adjustment has been made to these figures to accommodate the 210 day operating season as compared to a 230 day season in the wheat movement.
- (11) Interest. See remarks in Reference No. 1(a), Item 10.
As noted above under item for depreciation (10), an adjustment has also been made to interest charged against the Lake operating season of 210 days in the ore movement as compared to 230 days in the wheat movement.

Reference Nos. 3, 4, 5 and 6—omitted.

SHIPBUILDING COSTS IN UNITED KINGDOM APPROXIMATE COST OF NEW DRY CARGO SHIPS



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Reference No. 8—omitted.

Reference No. 9

NUMBER OF DRY CARGO VESSELS AS OF YEAR 1953, IN MAJOR DEADWEIGHT CAPACITY CATEGORIES

Deadweight Capacity	Number of Vessels
5,000-10,500	4,019
10,501-14,500	2,352
over 14,500	61

The above data have been abstracted from Lloyd's Appendix to the Register, Section 4, "Deadweight, Etc., Dry Cargo Ships".

Reference No. 10

Extract from "American Shipping and Shipbuilding", an article appearing on page 7 of The Shipping World, January 4, 1956.

RECORD GREAT LAKES SEASON

By mid-December, the Great Lakes-St. Lawrence system was closed to navigation, after an active and in some respects a record-breaking season. The Lake Carriers' Association reported that by December 1, the combined shipments of iron ore, coal, and grain by Great Lakes vessels, American and Canadian, totalled 151,337,810 tons—almost 33½ million more than 1954 cargoes to the same month and day. November ore shipments of 7,409,793 tons were the second highest ever recorded for that month and brought the year's aggregate movement of that commodity to 87,275,463 tons, breaking all peacetime records. Coal cargoes in November, amounting to 4,668,461 tons, set a five-year record; but grain shipments fell to 1,625,325, the lowest monthly figure since-grain-movement data was first compiled in 1942. Total grain cargoes for the year, up to December 1, were 9,861,057 tons.

Reference No. 11—omitted.

Reference No. 12

PRICE OF OIL FUELS AS AT MARCH, 1956

Montreal — Diesel, medium	\$5.28/barrel (foreign)
	5.77/barrel (coastal)
— Bunker C	2.56/barrel
Halifax — Diesel, medium	5.07/barrel (foreign)
	5.56/barrel (coastal)
— Bunker C	2.41/barrel

Reference No. 13

OCEAN TRAMP VESSELS UNDER CONSTRUCTION DECEMBER 1, 1955
IN THE WORLD'S SHIPYARDS

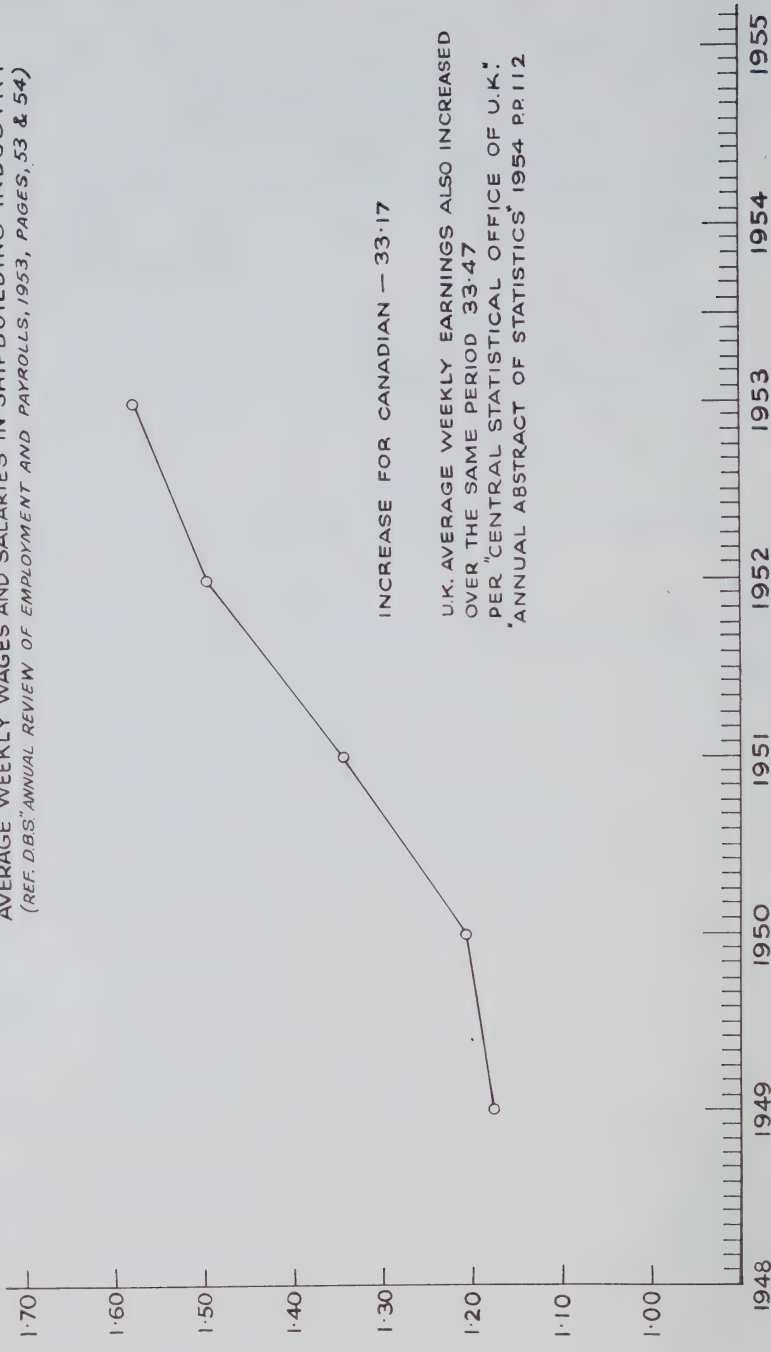
(Shipping World and World Shipbuilding)

Total No. of vessels under construction	562		
Total No. propelled by diesel machinery	471	=	85 %
Total No. propelled by steam machinery:			
(turbine)	69	=	12.5 %
(recip.)	14/554	=	2.5 %
Total No. under 5000 tons deadweight	53	=	9.45%
Total No. between 5000 and 8500 t.dw.	89	=	15.8 %
Total No. from 8600 to 10,500 t.dw.	156	=	27.8 %
Total No. from 10,600 to 12,500 t.dw.	137	=	24.4 %
Total No. from 12,600 to 14,000 t.dw.	63	=	11.2 %
Total No. from 14,100 to 16,000 t.dw.	56	=	10 %
Total No. from 16,100 to 19,000 t.dw.	7	=	1.25%
Total No. over 19,000 tons deadweight	1	=	.15%
			(29,500 t.dw.)
TOTAL	562	=	100 %

Of 110 vessels for which we have records on number of screws 108 are single screw, or 98%.

CANADIAN
AVERAGE WEEKLY WAGES AND SALARIES IN SHIPBUILDING INDUSTRY
(REF. DBS: ANNUAL REVIEW OF EMPLOYMENT AND PAYROLLS, 1953, PAGES, 53 & 54)

HOURLY RATE



INCREASE FOR CANADIAN — 33.17

U.K. AVERAGE WEEKLY EARNINGS ALSO INCREASED
OVER THE SAME PERIOD 33.47
PER "CENTRAL STATISTICAL OFFICE OF U.K."
"ANNUAL ABSTRACT OF STATISTICS" 1954 PP. 112

Reference Nos. 15, 16 and 17—omitted.

Reference No. 18

WHEAT TRADE—HEAD OF LAKES TO KINGSTON—VESSEL FF

Vessel Identity Letter	FF	
Description of Ship	640' Ore and Grain Vessel	
	Speed 14.76 knots at 32'0" dft. (10,900 SHP)	
	17 m.p.h. at 25'6" dft. (8,500 SHP)	
Speed (m.p.h.)	17	
Bushel capacity at 25' 6"	601,100	
Round trip (miles)	2068	
Voyage time (hours)	Running	= 149.6
	Loading	= 49.03
	Unloading	= 21.03
	Net Total	= 219.7
	Round trip including 5%	= 230.6
Trips per Season	23.9	
Bushels per Season	14,366,300	
Tons per Trip	16,100	
Tons Wheat per Season	384,790	
Ton-Miles per Season	397,872,000	
Where Built	U.K.	
1955 Construction Cost	\$4,830,000	
Flag	U.K.	
Crew	36 Persons	
Wages	\$ 41,000.	
Fuel	151,390.	
Provisions	14,700.	
Repairs and Maintenance	39,847.	
Supplies, Dues, etc.	27,800.	
Overhead	27,470	
Insurance	64,430.	
Total Variable Expenses		\$366,640.
Fit Out and Lay Up	Nil	
Depreciation	168,300.	
Interest	84,150.	
Total Fixed Expenses		252,450.
Total Operating Expenses		\$619,090.
Handling Expenses		143,660.
Total Expenses incl. Handling		\$762,750.
Cost per Bushel	5.31 Cents	
Cost per Ton	\$1.98	
Cost per Ton-Mile	0.192 Cents	
Income at 7c per Bushel	\$1,005,640.	
Profit before Taxes at 7c	\$242,890.	

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Reference No. 19

ORE TRADE—SEVEN ISLANDS TO HAMILTON—VESSEL FF

Vessel Identity Letter	FF	
Description of Ship	640' Ore and Grain Vessel	
	Speed 14.76 knots at 32'0" dft. (10,900 SHP)	
	17 m.p.h. at 25'6" dft. (8,500 SHP)	
Speed (m.p.h.)	17	
Ore Capacity at 25' 6"	16,100 Long Tons	
Round Trip (Miles)	1708	
Voyage Time (Hours)	Running	= 126.0
	Loading	= 5.4
	Unloading	= 21.5
	Net Total	= 152.9
	Round trip including 5%	= 160.6
Trips per Season	31.4	
Tons per Season	505,540	
Ton-Miles per Season	431,731,000	
Where Built	U.K.	
1955 Construction Cost	\$4,830,000.	
Flag	U.K.	
Crew	36 Persons	
Wages	\$ 37,500.	
Fuel	165,026.	
Provisions	13,400.	
Repairs and Maintenance	40,020.	
Supplies, Dues, etc.	25,400.	
Overhead	28,135.	
Insurance	58,829.	
Total Variable Expenses		\$368,310.
Fit Out and Lay Up	Nil	
Depreciation	\$153,680.	
Interest at 2½%	76,840.	
Total Fixed Expenses		230,520.
Total Operating Expenses		\$598,830.
Cost per Ton	\$1.19	
Cost per Ton-Mile	0.139 Cents	

APPENDIX XIV

Vessel Earnings After Payment of Corporation Taxes

CANADIAN *versus* UNITED KINGDOM TAX LIABILITY

1. *The Problem*

The purpose of the following analysis is to consider which of four vessels dealt with in Chapter VI might be expected to perform a given shipping service at the lowest charge per ton of cargo moved. The four vessels are:

H—Great Lakes bulk carrier built and registered in Canada.

J—Great Lakes bulk carrier built in the United Kingdom, registered in Canada.

C—Unspecialized (tramp) type ocean vessel, built and registered in the United Kingdom.

F—Specialized seaway-ocean bulk carrier built and registered in the United Kingdom.

Attention is given mainly to the competitive position in the separate carriage of wheat and iron ore on Great Lakes routes after the Seaway is in operation. The examples are taken from Appendix XIII, a report received from the Commission's consulting naval architects, dealing with material originally submitted by Canada Steamship Lines Limited. A final section considers a more general employment of vessel C in Canadian waters, compared with employment of an identical vessel registered in Canada.

The basic assumption is that the charge to be associated with the performance of a given service by a particular vessel must be sufficient to provide what a typical owner would consider to be an adequate return on the investment in view of the risks. The adequacy of the return to be required is judged from the point of view of a shipowner at the time he decides whether or not to invest in a new ship to carry on the service or to extend his participation in it, for it is on such decisions that continuing service depends.

The return in question must be realized from vessel earnings after payment of income and profit taxes. At the levels of taxation obtaining in Canada and the United Kingdom this is a major consideration. Moreover, there are fundamental differences in the tax structure of the two countries. The U.K. investment allowance, claimable as rapidly as earned and in addition to depreciation, affords a substantial relief from taxation and may permit the recovery of a large part of the original investment within a year. Depreciation allowances of $33\frac{1}{3}\%$ straight line and 15% or $12\frac{1}{2}\%$ on the diminishing balance also permit a larger capital recovery in the early years than would be realized otherwise and so encourage investment, although in differing degree. Also relevant are the differences in the extent of double taxation of earnings, firstly as corporate income and secondly as income to the equity shareholders.

The problem is therefore to find a common basis for expressing the required rate of return, taking account of the fact that vessel earnings remaining after payment of current expenses and taxes will be greatest in the early years and will accumulate at different rates according to the tax liability.

In this connection it is shown below that the earnings of a single vessel would not likely be great enough in the early years of its operation to permit claiming the investment and depreciation allowances as rapidly as the law allows, but that the allowances may be so claimed in the case of a vessel added to an existing fleet. It

will be assumed that the latter is the case, because it would be more typical and because it shows the full effect of the allowances.

It is assumed also that, at the time the investment decision is taken, the prospective annual out-of-pocket expenses are those for "variable expenses" as given by the consulting naval architects in Appendix XIII. In the case of lakers H and J the out-of-pocket expenses include also the annual cost of fitting out and laying up. The assumption is retained that the vessels will have no scrap or other value at the end of their economic life of 20 or 25 years, as the case may be. It is assumed further that no bonded indebtedness is attributable to the acquisition of the ship, the presumption being that the return on investment would be more than sufficient to cover interest payments on any indebtedness that might be incurred in practice.

2. Corporate Tax Liability

It is assumed that the owners of vessels H and J are corporations subject to Canadian income tax on the basis of the federal statute only, as set out in Chapter VI, and that the corporate income includes at least \$20,000 from other sources, so that vessel earnings are subject to a tax of 47% of the profit for tax purposes. Vessel H would qualify for depreciation at 33⅓% straight line under the Canadian Vessel Construction Assistance Act, while vessel J would be depreciated at 15% on the diminishing balance. It is assumed that vessels C and F are owned by corporations subject to United Kingdom income and profits taxes, that each qualifies for the 40% investment allowance, and that depreciation is claimed at 12½% on the diminishing balance; the combined rate of income and profits tax is 45½% on the undistributed portion of the profit for tax purposes and 30% on the distributed portion, as shown in Chapter VI.

3. Revenue Limitation on Depreciation and Investment Allowances

The investment and depreciation allowances have the obvious limitation that they can be claimed only to the extent that earnings permit. A large allowance is most advantageous to the shipowner when demand keeps his vessels fully employed at comparatively high freight rates. It may also be more valuable to the owner of a fleet than to the owner of a single vessel, especially if the other vessels of the fleet have comparatively small depreciation allowances left to be claimed.

Table I below illustrates the relation between the earnings of each of the four ships and the allowances that could be claimed on those earnings alone, if the vessels were employed in the wheat movement described in Appendix XIII. The assumed revenue is 8¼¢ a bushel or \$3.26⅔ a long ton, at present the maximum rate allowed by the Board of Grain Commissioners for the movement to Kingston. At this level of revenue the owner of vessel J would alone be able to claim the maximum allowance available to him.

The depreciation allowance available to the owner of H would be \$1,940,000; he would be able to claim \$924,247 (item 3 of Table I), 15.9% of the original cost. If revenues and costs continued at this level it would be a little over six years before the vessel's cost would be fully depreciated for tax purposes. During this period no corporate income tax need be paid, and at the end of that time the total of the net earnings would equal the original cost of the vessel.

The owners of vessels C and F would be able to claim their full depreciation allowances (as apportioned to the 230-day season out of a 330 working-day year) out of vessel earnings, but not the full investment allowances (item 8 of Table I). Assuming that the cost-revenue ratio in winter employment was the same as with wheat and that costs and revenues continued at the given level, it would take a total of about three years for the owner to claim the full investment allowance. Since the allowance is in addition to normal depreciation, however, the rate of capital recovery in those three years would be very rapid.

TABLE I
AMOUNT OF DEPRECIATION AND INVESTMENT ALLOWANCES
CLAIMABLE OUT OF VESSEL EARNINGS

Vessels H, J, C and F employed for 230 days carrying wheat from Fort William-Port Arthur to Kingston during first year of operation,¹ at \$3.26 $\frac{2}{3}$ per long ton (8 $\frac{3}{4}$ c per bushel).

	Vessel H	Vessel J	Vessel C	Vessel F
<i>1. Revenue</i>				
Long tons per season	471,270	471,270	245,430	369,360
At \$3.26 $\frac{2}{3}$ a ton	\$1,539,482	\$1,539,482	\$801,738	\$1,206,576
Add re winter storage revenue ²	14,725	14,725	.....	.....
Season's revenue	<u>\$1,554,207</u>	<u>\$1,554,207</u>	<u>\$801,738</u>	<u>\$1,206,576</u>
<i>2. Out-of-Pocket Expenses</i>				
Variable expenses, fit out and lay up ³	\$ 454,010	\$ 428,130	\$240,490	\$ 318,680
Handling expenses	175,950	175,950	91,640	137,870
Total out-of-pocket	<u>\$ 629,960</u>	<u>\$ 604,080</u>	<u>\$332,130</u>	<u>\$ 456,550</u>
<i>3. Excess of Revenue (1 — 2)</i>	<u>\$ 924,247</u>	<u>\$ 950,217</u>	<u>\$469,608</u>	<u>\$ 750,026</u>
<i>4. Depreciation Allowance</i>				
Construction cost	\$5,820,000	\$3,880,000	\$2,680,000	\$4,250,000
Annual depreciation rate	33 $\frac{1}{3}$ %	15 %	12 $\frac{1}{2}$ %	12 $\frac{1}{2}$ %
Year's depreciation	\$1,940,000	\$ 582,000	\$335,000	\$ 531,250
Depreciation apportioned to season ⁴	<u>\$1,940,000</u>	<u>\$ 582,000</u>	<u>\$233,485</u>	<u>\$ 370,265</u>
<i>5. Amount of H's Depreciation Allowance not Claimable out of Vessel Earnings (4 — 3)</i>	<u>\$1,015,753</u>			
<i>6. Excess of Vessel Earnings over out-of-pocket Expenses and Depreciation (3 — 4)</i>		<u>\$368,127</u>	<u>\$236,123</u>	<u>\$379,761</u>
<i>7. Investment Allowance</i>				
Amount at 40%			\$1,072,000	\$1,700,000
Apportioned to season ⁵			<u>\$ 747,152</u>	<u>\$1,184,848</u>
<i>8. Amount of Investment Allowance not Claimable out of Vessel Earnings (7 — 6)</i>			<u>\$511,029</u>	<u>\$805,087</u>

¹For description of vessels see text; construction costs, cargo tonnages, and out-of-pocket expenses are those given by consulting naval architects, Appendix XIII.

²70% of 765,000 bushels of wheat at 2 $\frac{3}{4}$ c; see Chapter VI, p. 88.

³Insurance charges account for the difference between vessels H and J.

⁴For vessels H and J (lakers), the year's allowance; for vessels C and F (ocean-going), 230/330ths of the year's allowance.

⁵230/330ths of the allowance.

It is likely that most of the various competing vessels will be units of a fleet, in which case the owner acquiring a new vessel might well be able to claim the full allowances available each year. In the circumstances of Table I, ownership of two or three other vessels might suffice. For example, the full depreciation allowance on vessel H could be claimed if the owner had other taxable income exceeding \$1,015,753 (item 5 of Table I); one sister ship on which the full depreciation had been claimed earlier would earn a taxable income of \$924,247 (item 3 of Table I), and the balance might come from one other vessel's earnings.

The advantage of being able to claim some part of a vessel's depreciation or investment allowance against other income is significant but it is not to be overrated. In the example just given, for instance, the fact that the full depreciation allowance on vessel H may be claimed in three years does not mean that the owner may thereby recover the vessel's original cost in that period. It means rather that, in addition to the revenue to be earned by H, acquisition of that vessel relieves him of a tax of 47% of \$1,015,753 or \$477,404 a year for three years; he would have realized the other 53% in any event. Over the succeeding three or four years the net earnings attributable to vessel H in a fleet would be less than those realized by the owner of a single vessel H by precisely $3 \times \$477,404 = \$1,432,212$. On the given revenue assumptions it would take just as long for the cumulative total to equal the original cost. Thus the advantage of the fleet-owner in a more rapid rate of capital recovery in the first three years is largely offset by a slower rate in the succeeding few years.

It will be assumed for the remainder of the analysis that each vessel is to be added to an existing fleet with earnings great enough that the respective depreciation and investment allowances may be claimed in full as they become available. The size of the existing fleets thereby implied may be judged by assuming that the revenue in the given wheat movement is \$2.29 a ton (the rate derived for vessel F in Section 7 below), and substituting this figure in the calculations set out in Table I. It will be found that vessel J's own earnings would be sufficient to claim depreciation of \$489,853 as against a permitted \$582,000; earnings from one similar ship with a lesser sum claimable for depreciation—say one older by three years or more—would be sufficient to allow the remaining \$92,147 to be claimed. In like manner it will be found that earnings from an existing fleet with a carrying capacity some six or seven times that of H, C, and F, respectively, would permit the full allowances on a new vessel to be claimed from the first year, providing that the age distribution of each fleet is fairly wide and hence that the total depreciation claimable on the other vessels is moderate. Fleets of this size are not unusual, hence the assumption appears reasonable.

4. "Disposable Funds" Realized from Vessel Earnings

The purpose of the present analysis was given as the determination of the comparative charges which the owners of various vessels might quote for the performance of a given service. The charge to be sought in each case was taken to be one at which prospective earnings of the given vessel would be sufficient to induce an operator to invest in it. It is therefore necessary to devise a formula of common application to measure the inducement to invest.

A shipowner's incentive to invest in a vessel must be found in the prospective excess of vessel earnings over out-of-pocket expenses incurred and income or profit taxes payable as a result of its operation. This excess is referred to hereafter as the *disposable funds* realized with respect to a given vessel. It is from these funds that the shipowner must recover his original investment in the ship or provide for its eventual replacement, and otherwise realize what he considers an adequate return.

The return on investment usually (but not necessarily) includes cash profits withdrawn from time to time. In the case of a corporate owner the withdrawal of profit is in the form of dividends, commonly an established amount at regular intervals.

The sums remaining after the payment of any dividend are referred to hereafter as the *retained funds*, i.e. that part of the *disposable funds* which remains in the hands of the management for reinvestment or for other purposes. Table II in Section 6 below shows the derivation of the two terms from a specific example.

In practice a desire for early realization of profit may conflict to some extent with the need to retain a portion of earnings at the disposal of the management. The two demands nevertheless involve different aspects of the owner's self-interest. Funds must be retained in the business not only for the recovery of the original capital invested in the vessel but also to meet higher replacement costs and so maintain the owner's equity in the existing fleet, as well as for the innumerable contingencies that may arise otherwise. In addition it may be desirable to forego immediate profit for the sake of increasing the equity in the fleet or expanding the fleet. Thus the vessel owner, whether an individual or a corporate body, may resolve the conflict by balancing immediate against longer-term interests.

For the purpose of reducing the earnings requirement to a set formula, the amount of *disposable funds* that must be in prospect in order to induce investment is taken as being the sum of the profits the shipowner will wish to take from time to time and the *retained funds* that he considers it necessary or expedient to have in prospect for committal to the business. The formula therefore emerges as the establishment of appropriate assumptions as to dividends and as to retained earnings. These two subjects are dealt with in Sections 5 and 6 below.

5. Assumptions Respecting Dividends

The major difficulty is to establish what rate of dividend declared by a U.K. corporation is equivalent to what rate declared by a Canadian corporation. The question must be considered from the point of view of the individual shareholder, since it is for him to say whether a given dividend is high or low. The shareholder makes this comparative judgment in terms of the yields he might realize on other investments open to him, including the yield at the going rate of interest. It is therefore assumed that the respective U.K. and Canadian dividend yields are equivalent if a typical shareholder in each country realizes an income from stock investment equal to that obtained from a like sum invested at interest. It is further assumed that the applicable rate of interest is 5% in each case.

A person subject to U.K. income tax finds that a 5% yield in dividends declared by a U.K. corporation affords precisely the same income after payment of personal tax as does an interest yield of 5%. If he holds "ordinary" stock valued on the market at £100 and an interest-bearing bond of the same value, each yielding £5 or 5%, each of the £5 in investment income is included in his taxable income and is liable to tax on the same basis. The corporation would have withheld 42½% of the dividend for income tax, hence the taxpayer may claim this amount as a credit in making his personal return, whereas the full tax may be due on the £5 interest if there has been no corresponding deduction at the source. Nevertheless the total tax liability is the same in each case, including liability to surtax if applicable.

Under Canadian law a taxpayer includes in his income the amount of dividends received (less allowable deduction for depletion and carrying charges if applicable) or the amount of interest, as the case may be. From the tax liability so calculated he may deduct a dividend tax credit of 20% of the net dividends received from a taxable Canadian corporation, providing the total income tax liability is not thereby reduced below zero.¹ The old age security tax (2% of taxable income, maximum \$60) may not be reduced by this credit. The effect in most cases is that the tax rate on the dividends is 20% less than the rate applying to interest income or other taxable income (e.g. a nil tax compared with 20%, 13% compared with 33%, etc.). Thus

¹The *Income Tax Act*, R.S.C. 1952, c. 148, s. 38 as amended Fifth Session, Twenty-Second Parliament, 1957.

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in these cases, for every \$100 invested in Canadian equity stock at a given dividend yield the taxpayer would realize a personal income after tax greater by 20% of the dividends than if he had invested a like sum in interest-bearing securities with the same yield.

In these circumstances various investors would each find that a different dividend yield afforded the same net income after taxes as a 5% interest yield, depending on the amount of the taxable income and the portion thereof represented by investment income. Thus at the one extreme an investor whose total income was not liable to tax would find that a 5% dividend yield provided him with the same income as a 5% interest yield. At the other extreme is the person whose taxable income exceeds \$400,000, including investment income subject to 4% surtax.² If he were to invest in an additional \$100 bond yielding \$5 a year in interest, the tax on the \$5 would be 82% or \$4.10, so that the increase in his income after tax would be 90c. If instead he invested the \$100 in shares of a taxable Canadian corporation at a yield of $x\%$, the tax would be 82% of $\$x$ less the tax credit of 20% of $\$x = 62\%$ of $\$x$; his income after tax would be increased by 38% of $\$x$. In this case the dividend yield ($x\%$) will be equivalent to the 5% interest yield if 38% of $\$x = 90c$, i.e. if the dividend yield is $90/38 = 2.37\%$. Thus in general the higher a taxpayer's income the lower is the range of dividend yields that he would find more remunerative than interest income.

Despite the possible variation from 5% to 2.37% in the dividend yield that various investors might find equivalent to an interest yield of 5%, it can be shown that 4% would be widely regarded as the approximate equivalent. Two examples will suffice.

Example 1—A taxpayer with income derived from salary, wages, or pension ("earnings" for short), personal exemptions \$2,000, having a sum to invest in securities.

With earnings of \$2,500, investment of \$1,000 in bonds at 5% would increase his income by \$50 to a total of \$2,550. The tax would be 15% of \$550 = \$82.50, the net income after tax \$2,467.50. Alternatively, \$1,000 invested in Canadian shares at 4% would increase his income by \$40 to \$2,540. The tax would be \$81.00 less a tax credit of 20% of \$40 (\$8), a net tax of \$73. Hence the net income after tax would be \$2,467, less by 50c than if the investment were in bonds.

Each additional \$1,000 invested in bonds would increase the net income after tax by \$42.50 compared with \$42 from investment in shares, until investment income equalled \$500. Thus, \$10,000 invested in bonds would add \$425 to net income after tax, \$420 if invested in shares, a difference of \$5 a year. With larger amounts to invest the difference would be proportionately less. Thus with \$20,000 invested in bonds the net income after tax would be \$3,265, the marginal tax rate being 17%, whereas with \$20,000 invested in shares the net income would be \$3,259, less by only \$6 a year.

With earnings of \$10,000 the marginal tax rate applicable to additional income is 28%. Each \$1,000 invested in bonds would increase the net income after taxes by \$36; if invested in shares the increase would be \$36.80, greater by 80c. If the amount to be invested were as much as \$20,000, the addition to net income would be \$720 from bonds, \$736 from shares, a difference of \$16 a year.

²In general the surtax of 4% is payable on investment income in excess of \$2,400.

This example shows that many typical taxpayers with anything from \$100 to \$20,000 or more to invest would realize about the same net income (after taxes) from Canadian shares yielding 4% in dividends as from bonds yielding 5% interest.

Example 2—A taxpayer dependent on investment income, personal exemptions \$1,000.

If the funds from which the income is to derive amount to \$50,000 and if the whole sum were invested in bonds yielding 5% interest, the annual income would be \$2,500. The tax would be \$239, including a surtax of \$4, leaving \$2,261 in net income after taxes. Alternatively, if \$30,000 were invested in bonds yielding 5% and the remaining \$20,000 in Canadian shares yielding 4%, the annual income would be \$2,300. The tax would be \$201 less a dividend tax credit of \$160, a net tax of \$41; the net income after taxes would be \$2,259, less by only \$2 a year.³

If the investment funds amount to \$100,000 and if the whole sum were invested in bonds yielding 5%, the annual income would be \$5,000. The tax and surtax would be \$784, leaving \$4,216 in net income. If \$30,000 only were invested in bonds and \$70,000 in Canadian shares yielding 4%, the annual income would be \$4,300. The tax and surtax would be \$637 and the dividend tax credit \$560, a net tax of \$77; the net income after taxes would be \$4,223, greater by only \$7 a year.⁴

This example shows that many taxpayers with comparatively large sums to invest would realize much the same net income (after taxes) on a substantial part of their investment funds whether that part were invested in Canadian shares yielding 4% or in bonds yielding 5%.

Having established that a U.K. corporate dividend yield of 5% may be considered the equivalent of a Canadian corporate dividend yield of approximately 4%, it remains to relate stock valuation to fleet valuation, and to identify one vessel's contribution to the total corporate dividend. Both these matters are covered in one assumption, that each vessel will be expected to earn in dividends each year of its useful life an amount equivalent to the interest yield on the average value of the ship over its life, a value taken to be half the construction cost. A similar assumption as to average values was made by CSL in calculating the annual interest charge in Exhibit 200. In the case of U.K. vessels the dividend expectation is thus taken to be 5% of half the construction cost, or simply $2\frac{1}{2}\%$ of the original cost. In like manner the dividend expectation for the Canadian vessels is taken as 2% of the original cost.

6. Assumptions Respecting "Retained Funds"

A shipowner is concerned not only with the total amount of *retained funds* (as defined in Section 4 above) that a ship may earn over its useful life, but also with the rate at which the funds accumulate, e.g. the number of years that will elapse before they will equal the capital outlay for the vessel. At any given revenue per ton of wheat or of ore the funds will accumulate at different rates for each of the four vessels under consideration, mainly because of the differences in tax liability. For example, Table II below shows that, at a revenue of $\$3.26\frac{2}{3}$ a ton of wheat

³The optimum combination would be \$40,000 in bonds and \$10,000 in shares, affording a net income of \$2,262.

⁴The optimum combination would be \$28,316 in bonds and \$71,684 in shares. The net tax payable would be \$60 (old age security tax); the net income after taxes would be \$4,223.16.

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TABLE II

VESSEL H — ANNUAL INCOME AND EXPENDITURES

Based on carriage of wheat for 230 days as in Appendix XIII. Vessel built in Canada at a cost of \$5,820,000, depreciation allowance 33⅓% straight line, dividends 2%. Vessel assumed to be one of a Canadian registered fleet with other taxable income exceeding \$1,015,753.

Assumed Annual Income

(a) Carriage of 471,270 tons of wheat at \$3.26⅔ =	\$1,539,482
(b) Winter storage of 70% of 765,000 bushels of wheat at 2¼c	= 14,725
(c) Vessel's total annual earnings (income)	<u>\$1,554,207</u>

	Years 1 to 3, each	Years 4 to 25, each	Total 25 years
<i>1. Corporate Income Tax</i>	\$	\$	\$
(a) Income	<u>1,554,207</u>	<u>1,554,207</u>	<u>38,855,175</u>
(b) Less deductions			
Out-of-pocket expenses			
(item 2, Table I)	629,960	629,960	15,749,000
Depreciation allowance	<u>1,940,000</u>	—	<u>5,820,000</u>
Total deductions	<u>2,569,960</u>	<u>629,960</u>	<u>21,569,000</u>
(c) Taxable Income (a) — (b)	<u>—1,015,753¹</u>	<u>924,247</u>	<u>17,286,175</u>
(d) Taxes, 47% of (c)	<u>— 477,404²</u>	<u>434,396</u>	<u>8,124,500</u>
<i>2. Income and Expenditures</i>			
(a) Income	<u>1,554,207</u>	<u>1,554,207</u>	<u>38,855,175</u>
(b) Expenditures			
Out-of-pocket expenses	629,960	629,960	15,749,000
Taxes, 1(d) above	<u>—477,404</u>	<u>434,396</u>	<u>8,124,500</u>
Total (or net)			
Expenditures	<u>152,556</u>	<u>1,064,356</u>	<u>23,873,500</u>
(c) Disposable Funds (excess of income over expenditures),			
(a) — (b)	<u>1,401,651</u>	<u>489,851</u>	<u>14,981,675</u>
(d) Less dividends apportioned to earnings of Vessel H (4% of ½ of \$5,820,000)	<u>116,400</u>	<u>116,400</u>	<u>2,910,000</u>
(e) Retained Funds (excess of income over expenditures and dividends), (c) — (d)	<u>1,285,251</u>	<u>373,451</u>	<u>12,071,675</u>

¹A deduction of \$1,015,753 is claimable to reduce the taxable income of other vessels in the fleet.

²The tax otherwise payable with respect to other fleet earnings is reduced by \$477,404.

(8¼¢ a bushel), vessel H's *retained funds* would be \$1,285,251 for the first year, i.e. the corporate funds would be greater by this amount because vessel H was added to the fleet. A similar calculation will show that, at the same revenue per ton, the comparable figure for vessel J (an identical ship built in the United Kingdom) would be \$699,507 and for vessel F \$1,053,766. The corporate owners would thus realize 22%, 18%, and 36% of the vessel's cost in its first year of operation, in addition to the specified dividend, assuming in the case of F that winter earnings were proportionate to earnings with wheat.

In these circumstances the method adopted for putting vessel earning requirements on a common basis is to assume that the value of the prospective *retained funds* capitalized at a given rate of return must equal the original cost of the vessel in each case. That means that each vessel is required to have the prospect of recovering its original cost over its economic life plus the same rate of return on invested capital, for the capitalized value is simply the present value of a series of amounts receivable in the future, calculated at a given rate of return. It is the sum which, invested at the given rate, would provide the specified payments and would be consumed in so doing, i.e. the payments comprise both capital recovery and earnings on the remaining investment.

Some guidance as to what prospective rate of return might be sufficient to induce investment may be had from the data available with respect to vessel H carrying wheat to Kingston, based on an actual vessel that has been used in that trade. If the prospective freight rate were 8¼¢ per bushel or \$3.26⅔ per long ton, the maximum allowed at present by the Board of Grain Commissioners, and if other expectations conformed with the data of Appendix XIII, it will be seen from Table II above that the prospective *retained funds* would be \$1,285,251 a year for 3 years and \$373,451 a year thereafter for another 22 years, which is the same thing as \$373,451 a year for 25 years plus \$911,800 for each of the first 3 years. It is required to find the rate of return at which the present value of these annuities would equal \$5,820,000.

The present value of \$1 a year for n years at a rate of return of $i\%$ is $\left\{ \frac{1 - \frac{1}{(1+i)^n}}{i} \right\}$.

The common notation for this expression is $a \frac{i}{n}$. In this case the required rate of return is therefore to be found by solving the equation

$$\$373,451 a \frac{i}{25} + \$911,800 a \frac{i}{3} = \$5,820,000$$

whence $i = 9.48\%$.

Alternatively, were the prospective freight rate to be 7¢ a bushel or \$2.61⅓ a long ton, the rate in two recent years, the equation would be

$$\$210,266 a \frac{i}{25} + \$911,800 a \frac{i}{3} = \$5,820,000$$

whence $i = 3.99\%$.

It must be emphasized that these rates of return relate only to a hypothetical example in which the ship is never idle for lack of cargo. On the basis of evidence submitted to the Commission neither an actual vessel H nor a fleet of them under one owner could earn such return at the given revenues, for it is common for a part of the lakes fleet to be laid up part of the season for lack of demand. The derived rates of return are useful, however, for the present purpose of making comparisons between

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ships performing in the same hypothetical movement. For this purpose it is assumed that the *retained funds* in prospect for each vessel must represent capital recovery plus a return at the rate of 7%, intermediate between the two rates found above. It is to be emphasized further that the figure in question is a prospective rate of return, which is far from being an assured rate.

7. Required Revenue

Vessel H

Let R be the required revenue from a 230-day season carrying wheat, and r be the required revenue per ton of wheat, so that $471,270 r = R$. The vessel's income for the year, including income from winter grain storage,⁵ is thus $R + \$14,725$. It will be seen from Table III⁶ that the prospective *retained funds* are $(.53R + \$469,325)$ each year for 3 years and $(.53R - \$442,475)$ each year for the next 22 years, which is the same thing as $(.53R - \$442,475)$ a year for 25 years plus $\$911,800$ for each of the first 3 years.⁷ It is required to find the value of r that will make the present value of these annuities equal to $\$5,820,000$, capitalizing at 7%, i.e. required that

$$(.53R - \$442,475)a \overline{25} + \$911,800 a \overline{3} = \$5,820,000.$$

The values of $a \overline{25}$ and $a \overline{3}$ may be read off from present value tables. The required value of R is thus found to be $\$1,389,737$, whence r equals $\$2.95$ per ton of wheat.

With respect to the iron ore movement, it is assumed that the vessel is so engaged for 210 days out of each 230-day operating year, so that 210/230ths of each year's depreciation allowance, taxes, dividends, and income from winter grain storage are apportioned to this period. Let the required revenue from shipping be R' for the 210-day season, and let the required revenue per ton of ore be r' , so that $654,900 r' = R'$. The vessel's income for the 210-day operation is thus $R' + \$13,445$, including the apportionment of winter earnings. Table IV⁸ shows that the ore employment provides prospective *retained funds* of $(.53R' + \$496,705)$ for 3 years and $(.53R' - \$335,808)$ for the next 22 years, which is the same thing as $(.53R' - \$335,808)$ a year for 25 years plus $\$832,513$ a year for the first 3 years. It is required that the capitalized value of these sums at 7% equal 210/230ths of $\$5,820,000$ or $\$5,313,913$, on the assumption that prospective earnings in the remaining 20 days of each operating year will make up the balance of the capital value. It is therefore required that

$$(.53R' - \$335,808) a \overline{25} + \$832,513 a \overline{3} = \$5,313,913$$

whence $R' = \$1,140,228$, $r' = \$1.74$ per ton of ore.

Vessel J

Tables V and VI⁹ make similar calculations of the prospective *retained funds* to be earned by vessel J carrying wheat and iron ore, respectively. The additional depreciation allowance in the 25th year arises on the assumption that the original vessel cost is to be fully depreciated for tax purposes, i.e. that the vessel has no scrap or other value at the end of 25 years. Depreciation at the rate of 15% on the diminishing balance amounts to 98.28022% in 25 years, hence a final adjustment of 1.71978% is claimable.

Carrying wheat, the prospective *retained funds* are $(.53R - \$389,958)$ a year for 25 years plus $\$273,540(.85)^{n-1}$ each year for $n = 1$ to 25 years plus $\$31,362$ in the

⁵See Chapter VI p. 88.

⁶See page 336.

⁷The additional *retained funds* in the first three years are 47% of the depreciation allowance, claimed in full in those three years.

⁸See page 337.

⁹See pages 338 and 339.

25th year. The present value of an annuity of \$1 for 25 years ($a \frac{\overline{25}|}{25}$) can be obtained from published tables, and so can the present value of \$1 payable 25 years hence. The present value of an annuity which decreases in geometric progression may be computed from a formula which reduces in this case to

$\frac{\$273,540}{(1.07 - .85)} \left\{ 1 - \left(\frac{.85}{1.07} \right)^{25} \right\}$. Adding the present values of the three components and equating the sum to \$3,880,000 it will be found that R must equal \$1,162,361. Since the vessel transports 471,270 tons of wheat, r equals \$2.47 per ton of wheat.

In like manner the ore employment provides prospective *retained funds* of $(.53R' - \$287,858)$ a year for 25 years plus $\$249,754(.85)^{n-1}$ each year for $n = 1$ to 25 years plus \$28,635 in the 25th year. It is required that the present value of these sums equal 210/230ths of \$3,880,000 or \$3,542,609, whence $R' = \$932,624$. The total quantity of ore transported is 654,900 tons, hence $r' = \$1.42$ per ton of ore.

Vessel C

Tables VII and VIII¹⁰ show the prospective *retained funds* for vessel C. Depreciation at the rate of $12\frac{1}{2}\%$ on the diminishing balance amounts to 93.07911% in 20 years, hence it is assumed that a final adjustment of 6.92089% is claimable in the 20th year.

Carrying wheat, the prospective *retained funds* are $(.545R - \$220,470)$ a year for 20 years plus $\$106,236(.875)^{n-1}$ each year for $n = 1$ to 20 years plus \$339,954 in the first year plus \$58,820 in the 20th year. The equation of present values at 7% is

$$\begin{aligned} & (.545R - \$220,470) a \frac{\overline{20}|}{20} + \frac{\$106,236}{(1.07 - .875)} \left\{ 1 - \left(\frac{.875}{1.07} \right)^{20} \right\} \\ & + \$339,954 a \frac{1}{1} + \frac{\$58,820}{(1.07)^{20}} = \$2,680,000 \times \frac{230}{330} \\ & = \$1,867,879, \end{aligned}$$

where the values of $a \frac{\overline{20}|}{20}$, $a \frac{1}{1}$, and $(1.07)^{20}$ may be obtained from tables. The required value of R is thus found to be \$577,714. The volume of wheat transported is 245,430 tons, hence r equals \$2.35 per ton of wheat.

With ore the equation of present values at 7% is in like manner

$$(.545R' - \$162,277) a \frac{\overline{20}|}{20} + \$96,998 \times 5.036488 + \$310,393 a \frac{1}{1} + \frac{\$53,705}{(1.07)^{20}} = \$1,705,455,$$

whence $R' = \$455,879$. The amount of ore transported is 287,850 tons, hence $r' = \$1.58$ per ton of ore.

Vessel F

Tables IX and X¹¹ show the *retained funds* for vessel F.

Carrying wheat, the equation of present values is

$$(.545R - \$311,395) a \frac{\overline{20}|}{20} + \$168,471 \times 5.036488 + \$539,106 a \frac{1}{1} + \frac{\$93,277}{(1.07)^{20}} = \$2,962,121,$$

whence $R = \$846,002$. The quantity of wheat transported is 369,360 tons, hence $r = \$2.29$ per ton of wheat.

Carrying ore, the equation of present values is

$$(.545R' - \$224,133) a \frac{\overline{20}|}{20} + \$153,821 \times 5.036488 + \$492,227 a \frac{1}{1} + \frac{\$85,166}{(1.07)^{20}} = \$2,704,545,$$

whence $R' = \$662,007$. The amount of ore transported is 477,090 tons, hence $r' = \$1.39$ per ton of ore.

¹⁰See pages 340 and 341.

¹¹See pages 342 and 343.

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Recapitulation

Vessel	Required Revenue per Ton	
	Wheat	Ore
H—Laker built and registered in Canada	\$2.95	\$1.74
J—Laker built U.K., registered in Canada	2.47	1.42
C—Ocean tramp	2.35	1.58
F—Seaway-ocean bulk-carrier	2.29	1.39

8. Revenue Requirements for Year-Round Employment of Identical Vessels on United Kingdom and Canadian Registries.

Vessel C of the foregoing analysis is compared below with two identical vessels, one acquired at the same cost (\$2,680,000) and registered in Canada, the other built in Canada at a cost of \$4,020,000 and registered in Canada. The revenue requirements considered are those to cover vessel service only, exclusive of charges for cargo handling or shore facilities. It is assumed that each vessel is to operate a full year of 330 days, otherwise the basic assumptions are the same as above.

Vessel C, Built and Registered in U.K.

The out-of-pocket expenses of vessel C may vary considerably according to the trade in which the vessel is employed, notably the fuel costs, quite aside from the fact a wage bonus amounting to about \$20 a day for the whole crew is payable when the ship is employed more than three months in Canadian and other North American waters. An acceptable approximation may nevertheless be had by projecting the variable costs for 230 days with wheat and 210 days with ore, as given in Appendix XIII, for a 330-day year. The projections are:

$$\begin{aligned}
 \$240,490 \times \frac{330}{230} &= \$345,051 \\
 \$231,650 \times \frac{330}{210} &= \$364,021 \\
 \text{Average per 330-day year} &= \underline{\underline{\$354,536}}
 \end{aligned}$$

The relevant data are as follows:

Yearly income requirement	<i>R</i>
Out-of-pocket expenses	\$ 354,536
Investment allowance	\$1,072,000
Depreciation allowance	\$ 335,000(.875) ^{<i>n</i>-1}
Additional depreciation in 20th year	\$ 185,480
Dividends	\$ 67,000

Following the procedure given in Table VII below it will be found that the prospective *retained funds* are (.545*R* — \$249,897) a year for 20 years plus \$152,425(.875)^{*n*-1} each year for *n*=1 to 20 years plus \$487,760 in the first year plus \$84,393 in the 20th year. Capitalizing these amounts at 7% and equating the result to \$2,680,000 gives a revenue requirement of \$706,896 per 330-day year, which is an average of \$2,142 per working day.

Identical Vessel Built in U.K., Registered in Canada

The out-of-pocket (variable) expenses would be greater than those of the U.K. vessel only with respect to wages and overhead, the latter charge being 10% of specified expenses including wages.¹² The U.K. wage costs are given as \$38,400 for 230 days with wheat and \$35,100 for 210 days with ore; projecting each of these figures for a 330-day year and taking the average, as above, gives a wage bill of \$55,127 for the operating year, about \$167 a day. It is estimated that wage costs on Canadian registry would be about \$430 a day, which is \$141,900 for 330 days, greater than the U.K. figure by \$86,773. Adding 10% for overhead gives a total differential of \$95,450 a year, i.e. the out-of-pocket expenses for a 330-day year on Canadian registry would be $\$354,536 + \$95,450 = \$449,986$.

The relevant data are as follows:

Yearly income requirement	<i>R</i>
Out-of-pocket expenses	\$ 449,986
Depreciation allowance	\$ 402,000(.85) ⁿ⁻¹
Additional depreciation 20th year ¹³	\$ 103,875
Dividends	\$ 53,600

Following the procedure given in Table V below it will be found that prospective *retained funds* are ($.53R - \$292,093$) or 20 years plus $\$188,940(.85)^{n-1}$ each year for $n=1$ to 20 years plus \$48,821 in the 20th year. Capitalizing at 7% and equating the result to \$2,680,000 gives a revenue requirement of \$874,755 for a 330-day year, an average of \$2,651 per operating day. This requirement exceeds that of the U.K. vessel by \$167,859 a year or \$509 a day, a difference of about 24%.

Identical Vessel Built and Registered in Canada

It is assumed that the cost of the vessel built in Canada would be \$4,020,000, 50% greater than the cost assumed for construction in the United Kingdom, and that this cost could be depreciated at 33⅓% straight line under the Canadian Vessel Construction Assistance Act. The only variable expense that would differ from the previous example would be the annual cost of insurance, which accounts for about \$53,055 of the \$449,986 variable costs there derived. Adding 50% to the insurance cost therefore gives a total of \$476,513 for the out-of-pocket expenses of the Canadian-built vessel.

The relevant data are as follows:

Yearly income requirement	<i>R</i>
Out-of-pocket expenses	\$ 476,513
Depreciation allowance 3 years at	\$1,340,000
Dividends	\$ 80,400

Following the procedure given in Table III below it will be found that the prospective *retained funds* are ($.53R - \$332,952$) or 20 years plus \$629,800 for each of the first 3 years. Capitalizing at 7% and equating the result to \$4,020,000 gives a revenue requirement of \$1,049,810 for a 330-day year, an average of \$3,181 per operating day. This revenue requirement is greater by 49% than the requirement for an identical vessel built and registered in the United Kingdom, greater by 20% than for one built in the United Kingdom and registered in Canada.

¹²See Appendix XIII. Overhead for vessel C is 10% of wages, fuel, provisions, repairs and maintenance, and supplies, dues, etc.

¹³3.87595% of original cost.

TABLE III

EARNINGS OF VESSEL H CARRYING WHEAT

Based on a 230-day season as in Appendix XIII. Vessel cost \$5,280,000, depreciation allowance 33⅓% straight line, dividends 2%. Vessel assumed to be one of a Canadian registered fleet.

Assumed Annual Income

(a) Carriage of 471,270 tons of wheat at \$r per ton	\$R
(b) Winter storage of wheat	\$14,725
(c) Total annual income	<u>\$R + \$14,725</u>

	Years 1 to 3, each	Years 4 to 25, each
<i>1. Corporate Income Tax</i>	\$	\$
(a) Income	<u>R + 14,725</u>	<u>R + 14,725</u>
(b) Less deductions		
Out-of-pocket expenses		
(Item 2, Table I)	629,960	629,960
Depreciation allowance	1,940,000	—
Total deductions	<u>2,569,960</u>	<u>629,960</u>
(c) Taxable income (a) — (b)	<u>R — 2,555,235</u>	<u>R — 615,235</u>
(d) Taxes, 47% of (c)	<u>.47R — 1,200,960</u>	<u>.47R — 289,160</u>
<i>2. Income and Expenditures</i>		
(a) Income	<u>R + 14,725</u>	<u>R + 14,725</u>
(b) Expenditures		
Out-of-pocket expenses	629,960	629,960
Taxes, 1(d) above	.47R — 1,200,960	.47R — 289,160
Total Expenditures	<u>.47R — 571,000</u>	<u>.47R + 340,800</u>
(c) Disposable Funds (a) — (b)	<u>.53R + 585,725</u>	<u>.53R — 326,075</u>
(d) Less dividends apportioned to earnings of vessel H, 2% of \$5,820,000	116,400	116,400
(e) Retained Funds (c) — (d)	<u>.53R + 469,325</u>	<u>.53R — 442,475</u>

TABLE IV
EARNINGS OF VESSEL H CARRYING IRON ORE

Based on carriage of iron ore for 210 days out of a 230-day season as in Appendix XIII. Vessel cost \$5,820,000, depreciation allowance $33\frac{1}{3}\%$ straight line, dividends 2%. Vessel assumed to be one of a Canadian registered fleet.

Assumed Income for 210 days

(a) Carriage of 654,900 tons of iron ore at \$ r' per ton \$ R'	
(b) Winter storage of wheat ¹	\$13,445
(c) Total income for 210 days	<u>$\\$R' + \\$13,445$</u>

	Years 1 to 3, each	Years 4 to 25, each
<i>1. Corporate Income Tax</i>	\$	\$
(a) Income	$R' + 13,445$	$R' + 13,445$
(b) Less deductions		
Out-of-pocket expenses ²	446,520	446,520
Depreciation allowance ¹	1,771,304	—
Total deductions	<u>2,217,824</u>	<u>446,520</u>
(c) Taxable income (a) — (b)	$R' - 2,204,379$	$R' - 433,075$
(d) Taxes 47% of (c)	<u>$.47R' - 1,036,058$</u>	<u>$.47R' - 203,545$</u>
<i>2. Income and Expenditures</i>		
(a) Income	$R' + 13,445$	$R' + 13,445$
(b) Expenditures		
Out-of-pocket expenses ²	446,520	446,520
Taxes, 1(d) above	$.47R' - 1,036,058$	$.47R' - 203,545$
Total expenditures	<u>$.47R' - 589,538$</u>	<u>$.47R' + 242,975$</u>
(c) <i>Disposable Funds</i> (a) — (b)	$.53R' + 602,983$	$.53R' - 229,530$
(d) Less dividends ¹	106,278	106,278
(e) <i>Retained Funds</i> (c) — (d)	<u>$.53R' + 496,705$</u>	<u>$.53R' - 335,808$</u>

¹210/230ths of the similar item in Table III.

²Variable expenses plus fit-out and lay-up, from Appendix XIII.

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TABLE V

EARNINGS OF VESSEL J CARRYING WHEAT

Based on a 230-day season as in Appendix XIII. Vessel cost \$3,880,000, depreciation allowance 15% on diminishing balance, dividends 2%. Vessel assumed to be one of a Canadian registered fleet.

Assumed Annual Income

(a) Carriage of 471,270 tons of wheat at \$ <i>r</i> per ton	\$ <i>R</i>	
(b) Winter storage of wheat		\$14,725
(c) Total annual income	<u>\$<i>R</i> + \$14,725</u>	

	Year <i>n</i>	Additional Depreciation 25th year ¹
<i>1. Corporate Income Tax</i>	\$	\$
(a) Income	<u><i>R</i> + 14,725</u>	
(b) Less deductions		
Out-of-pocket expenses		
(item 2, Table I)	604,080	
Depreciation allowance	<i>dn</i> ²	+ 66,727
Total deductions	<u><i>dn</i> + 604,080</u>	+ 66,727
(c) Taxable income (a) — (b)	<u><i>R</i> — <i>dn</i> — 589,355</u>	— 66,727
(d) Taxes 47% of (c)	<u>.47(<i>R</i> — <i>dn</i>) — 276,997</u>	— 31,362
<i>2. Income and Expenditures</i>		
(a) Income	<u><i>R</i> + 14,725</u>	
(b) Expenditures		
Out-of-pocket expenses	604,080	
Taxes, 1(d) above	.47(<i>R</i> — <i>dn</i>) — 276,997	— 31,362
Total expenditures	<u>.47(<i>R</i> — <i>dn</i>) + 327,083</u>	— 31,362
(c) Disposable Funds (a) — (b)	<u>.53<i>R</i> + .47<i>dn</i> — 312,358</u>	+ 31,362
(d) Less dividends apportioned to earnings of vessel J, 2% of \$3,820,000	77,600	
(e) Retained Funds (c) — (d)	<u>.53<i>R</i> + .47<i>dn</i> — 389,958</u>	
	<u>= .53<i>R</i> + 273,540(.85)ⁿ⁻¹ — 389,958</u>	+ 31,362

¹Depreciation at the rate of 15% on the diminishing balance amounts to 98.28022% in 25 years. The balance of 1.71978% is assumed to be claimable in the 25th year.

²Where *dn* is \$582,000(.85)ⁿ⁻¹.

TABLE VI
EARNINGS OF VESSEL J CARRYING IRON ORE

Based on carriage of iron ore for 210 days out of a 230-day season as in Appendix XIII. Vessel cost \$3,880,000, depreciation allowance 15% on diminishing balance, dividends 2%. Vessel assumed to be one of a Canadian registered fleet.

Assumed Income for 210 days

(a)	Carriage of 654,900 tons of iron ore at \$ r' per ton	\$ R'
(b)	Winter storage of wheat ¹	\$13,445
(c)	Total income for 210 days	<u><u>\$$R'$ + \$13,445</u></u>

	Year n	Additional Depreciation 25th year ¹
	\$	\$
1. Corporate Income Tax		
(a) Income	$R' + 13,445$	
(b) Less deductions		
Out-of-pocket expenses ²	422,890	
Depreciation allowance ¹	$d'n^3$	+ 60,925
Total deductions	$d'n + 422,890$	+ 60,925
(c) Taxable Income (a) — (b)	$R' - d'n - 409,445$	— 60,925
(d) Taxes 47% of (c)	$.47(R' - d'n) - 192,439$	— 28,635
2. Income and Expenditures		
(a) Income	$R' + 13,445$	
(b) Expenditures		
Out-of-pocket expenses ²	422,890	
Taxes, 1(d) above	$.47(R' - d'n) - 192,439$	— 28,635
Total expenditures	$.47(R' - d'n) - 230,451$	— 28,635
(c) Disposable Funds (a) — (b)	$.53R' + .47d'n - 217,006$	+ 28,635
(d) Less dividends ¹	70,852	
(e) Retained Funds (c) — (d)	$.53R' + .47d'n - 287,858$	
	$= .53R' + 249,754(.85)^{n-1} - 287,858$	+ 28,635

¹210/230ths of the similar item in Table V.

²Variable expenses plus fit-out and lay-up, from Appendix XIII.

³Where $d'n$ is \$531,395 $(.85)^{n-1}$.

TABLE VII

EARNINGS OF VESSEL C CARRYING WHEAT

Based on carriage of wheat for 230-day season out of 330-day year as in Appendix XIII. Vessel built in U.K. at cost of \$2,680,000. Investment allowance 40%, depreciation allowance $12\frac{1}{2}\%$ of diminishing balance, dividends $2\frac{1}{2}\%$, apportioned 230/330ths to the given employment. Vessel assumed to be one of a fleet registered in the United Kingdom.

	Year n	Investment Allowance 1st Year	Additional Depreciation 20th Year ¹
<i>1. Corporate Taxes</i>	\$	\$	\$
(a) Seasonal income	R		
(b) Less deductions			
Out-of-pocket expenses ²	332,130		
Investment allow- ance	—	+ 747,152	
Depreciation allowance	dn^3		+ 129,274
Total deductions	$dn + 332,130$	+ 747,152	+ 129,274
(c) Taxable income			
(a) — (b)	$R - dn - 332,130$	— 747,152	— 129,274
(d) Dividends	46,697		
(e) Undistributed			
(c) — (d)	$R - dn - 378,827$	— 747,152	— 129,274
(f) Taxes			
30% of (d)	14,009		
$45\frac{1}{2}\%$ of (e)	$.455(R - dn) - 172,366$	— 339,954	— 58,820
Total taxes	$.455(R - dn) - 158,357$	— 339,954	— 58,820
<i>2. Income and Expenditures</i>			
(a) Income	R		
(b) Expenditures			
Out-of-pocket expenses ²	332,130		
Taxes, 1(f) above	$.455(R - dn) - 158,357$	— 339,954	— 58,820
Total expenditures	$.455(R - dn) + 173,773$	— 339,954	— 58,820
(c) Disposable Funds			
(a) — (b)	$.545R + .455dn - 173,773$	+ 339,954	+ 58,820
(d) Less dividends	46,697		
(e) Retained Funds			
(c) — (d)	$.545R + .455dn - 220,470$		
= $.545R + 106,236(.875)^{n-1} - 220,470$		+ 339,954	+ 58,820

¹Depreciation at the rate of $12\frac{1}{2}\%$ of the diminishing balance amounts to 93.07911% in 20 years; the balance of 6.92089% assumed to be claimable in 20th year.

²From Appendix XIII, variable expenses.

³Where $dn = \$233,484(.875)^{n-1}$.

TABLE VIII

EARNINGS OF VESSEL C CARRYING IRON ORE

Based on carriage of iron ore for a 210-day season out of a 330-day year as in Appendix XIII. Vessel built in U.K. at cost of \$2,680,000. Investment allowance 40%, depreciation allowance $12\frac{1}{2}\%$ of diminishing balance, dividends $2\frac{1}{2}\%$, apportioned 210/330ths to the given employment. Vessel assumed to be one of a fleet registered in the United Kingdom.

	Year n	Investment Allowance 1st Year	Additional Depreciation 20th Year ¹
1. <i>Corporate Taxes</i>	\$	\$	\$
(a) Seasonal income	R'		
(b) Less deductions			
Out-of-pocket expenses ²	231,650		
Investment allow- ance	—	+ 682,182	
Depreciation allowance	$d'n^3$		+ 118,033
Total deductions	$d'n + 231,650$	+ 682,182	+ 118,033
(c) Taxable income			
(a) — (b)	$R' - d'n - 231,650$	— 682,182	— 118,033
(d) Dividends	42,636		
(e) Undistributed			
(c) — (d)	$R' - d'n - 274,286$	— 682,182	— 118,033
(f) Taxes			
30% of (d)	12,791		
$45\frac{1}{2}\%$ of (e)	$.455(R' - d'n) - 124,800$	— 310,393	— 53,705
Total taxes	$.455(R' - d'n) - 112,009$	— 310,393	— 53,705
2. <i>Income and Expenditures</i>			
(a) Income	R'		
(b) Expenditures			
Out-of-pocket expenses ²	231,650		
Taxes, 1(f) above	$.455(R' - d'n) - 112,009$	— 310,393	— 53,705
Total expenditures	$.455(R' - d'n) + 119,641$	— 310,393	— 53,705
(c) <i>Disposable Funds</i>			
(a) — (b)	$.545R' + .455d'n - 119,641$	+ 310,393	+ 53,705
(d) Less dividends	42,636		
(e) <i>Retained Funds</i>			
(c) — (d)	$.545R' + .455d'n - 162,277$		
	$= .545R' + 96,998(.875)^{n-1} - 162,277$	+ 310,393	+ 53,705

¹Depreciation at the rate of $12\frac{1}{2}\%$ of the diminishing balance amounts to 93.07911% in 20 years; the balance of 6.92089% assumed to be claimable in the 20th year.

²Variable expenses from Appendix XIII.

³Where $d'n$ is $\$213,182(.875)^{n-1}$.

TABLE IX
EARNINGS OF VESSEL F CARRYING WHEAT

Based on the carriage of wheat for a 230-day season out of a 330-day year as in Appendix XIII. Vessel built in U.K. at cost of \$4,250,000. Investment allowance 40%, depreciation allowance $12\frac{1}{2}\%$ of diminishing balance, dividends $2\frac{1}{2}\%$, apportioned 230/330ths to the given employment. Vessel assumed to be one of a fleet registered in the United Kingdom.

	Year n	Investment Allowance 1st Year	Additional Depreciation 20th Year ¹
	\$	\$	\$
1. <i>Corporate Taxes</i>			
(a) Seasonal income	R		
(b) Less deductions			
Out-of-pocket expenses ²	456,550		
Investment allowance	—	+ 1,184,848	
Depreciation allowance	dn^3		+ 205,005
Total deductions	$dn + 456,550$	+ 1,184,848	+ 205,005
(c) Taxable income			
(a) — (b)	$R - dn - 456,550$	— 1,184,848	— 205,005
(d) Dividends	74,053		
(e) Undistributed			
(c) — (d)	$R - dn - 530,603$	— 1,184,848	— 205,005
(f) Taxes			
30% of (d)	22,216		
$45\frac{1}{2}\%$ of (e)	$.455(R - dn) - 241,424$	— 539,106	— 93,277
Total taxes	$.455(R - dn) - 219,208$	— 539,106	— 93,277
2. <i>Income and Expenditures</i>			
(a) Income	R		
(b) Expenditures			
Out-of-pocket expenses ²	456,550		
Taxes, 1(f) above	$.455(R - dn) - 219,208$	— 539,106	— 93,277
Total expenditures	$.455(R - dn) + 237,342$	— 539,106	— 93,277
(c) <i>Disposable Funds</i>			
(a) — (b)	$.545R + .455dn - 237,342$	+ 539,106	+ 93,277
(d) Less dividends	74,053		
(e) <i>Retained Funds</i>			
(c) — (d)	$.545R + .455dn - 311,395$		
	$= .545R + 168,471(.875)^{n-1} - 311,395$	+ 539,106	+ 93,277

¹Depreciation at the rate of $12\frac{1}{2}\%$ of the diminishing balance amounts to 93.07911% in 20 years; the balance of 6.92089% assumed to be claimable in the 20th year.

²Variable expenses from Appendix XIII.

³Where dn is \$370,265 $(.875)^{n-1}$.

TABLE X

EARNINGS OF VESSEL F CARRYING IRON ORE

Based on the carriage of iron ore for a 210-day season out of a 330-day year as in Appendix XIII. Vessel built in U.K. at cost of \$4,250,000. Investment allowance 40%, depreciation allowance $12\frac{1}{2}\%$ of diminishing balance, dividends $2\frac{1}{2}\%$, apportioned 210/330ths to the given employment. Vessel assumed to be one of a fleet registered in the United Kingdom.

	Year n		Investment Allowance 1st Year	Additional Depreciation 20th Year ¹
1. <i>Corporate Taxes</i>	\$		\$	\$
(a) Seasonal income	R'			
(b) Less deductions				
Out-of-pocket expenses ²	306,420			
Investment allow- ance	—		+1,081,818	
Depreciation allowance	$d'n^3$			+ 187,179
Total deductions	$d'n$	+ 306,420	+1,081,818	+ 187,179
(c) Taxable income				
(a) — (b)	R' —	$d'n$ — 306,420	—1,081,818	— 187,179
(d) Dividends	67,614			
(e) Undistributed				
(c) — (d)	R' —	$d'n$ — 374,034	—1,081,818	— 187,179
(f) Taxes				
30% of (d)	20,284			
$45\frac{1}{2}\%$ of (e)	.455 (R' —	$d'n$ — 170,185	— 492,227	— 85,166
Total taxes	.455 (R' —	$d'n$ — 149,901	— 492,227	— 85,166
2. <i>Income and Expenditures</i>				
(a) Income	R'			
(b) Expenditures				
Out-of-pocket expenses ²	306,420			
Taxes, 1(f) above	.455 (R' —	$d'n$ — 149,901	— 492,227	— 85,166
Total expenditures	.455 (R' —	$d'n$ + 156,519	— 492,227	— 85,166
(c) <i>Disposable Funds</i>				
(a) — (b)	.545 R' +	.455 $d'n$ — 156,519	+ 492,227	+ 85,166
(d) Less dividends	67,614			
(e) <i>Retained Funds</i>				
(c) — (d)	.545 R' +	.455 $d'n$ — 224,133		
=	.545 R' +	153,821 (.875) $n-1$ — 224,133	+ 492,227	+ 85,166

¹Depreciation at the rate of $12\frac{1}{2}\%$ of the diminishing balance amounts to 93.07911% in 20 years; the balance of 6.92089% assumed to be claimable in 20th year.

²Variable expenses from Appendix XIII.

³Where $d'n$ is \$338,068 (.875) $n-1$.

APPENDIX XV

Cost Differentials in the Export of Wheat After the Seaway is Completed

DIRECT OVERSEAS SHIPMENT *versus* TRANSHIPMENT AT MONTREAL

It is assumed that the direct overseas shipment is from Fort William-Port Arthur in vessel C of Appendix XIII, and that wheat for transshipment at Montreal is carried in vessel F, both vessels being on U.K. registry. Vessel C represents the typical ocean tramp. Vessel F is an ocean bulk carrier specially designed for seaway service, shown in Appendix XIV to be in a position to quote lower rates than the most economical laker on Canadian registry; it might presumably be on seasonal charter to a Canadian operator.

The first two examples below assume respectively that vessel C and vessel F proceed in ballast from Montreal to Fort William. However, both vessels would find advantage in carrying iron ore from Sept-Îles to a Lake Erie port on the upbound voyage. Accordingly the third and fourth examples assume that the vessel carries ore to Cleveland, more or less central among the ore ports and at present receiving the largest volume of any, with each vessel receiving the same revenue per ton of ore.

The comparison is in terms of the cost—cost to the shipper—of the water movement of a ton of wheat up to the time it leaves Montreal. The costs dealt with are an estimated charge for vessel time and the elevation charge at Montreal only; it is assumed that the per ton charges for other services (including lakehead fobbing) are the same for each mode of shipment. Vessel capacities, voyage times and operating costs are derived from Appendix XIII, except that the “handling expenses” with respect to wheat at Kingston have been excluded, being replaced where appropriate with the Montreal elevation charges. The estimated charge for vessel time is that calculated to yield a return of 7% after payment of taxes and dividends, derived from Appendix XIV, where the assumptions basic to the calculation are set out.

The revenue required by vessel C, in order that the given return be realized, will be found from Appendix XIV to be \$486,074 for 230 days in the hypothetical wheat movement (\$577,714 less \$91,640 for the handling expenses), which is \$2,113 a day; this charge is the one used in the first example. In the ore movement the required revenue is \$455,879 for 210 days, or \$2,171 a day, hence for the fourth example with the vessel carrying both wheat and ore the charge made is a simple average of the two rates, \$2,142 a day.

The revenue required by vessel F will be found likewise to be \$708,132 for 230 days with wheat (\$846,002 less \$137,870 for the handling expenses), or \$3,079 a day; this charge is the one used in the second example. The requirement in the ore movement is \$662,007 for 210 days, or \$3,152 a day; for the third example the charge is the simple average, \$3,116 a day.

Example 1: Direct Overseas Shipment via Ocean Tramp (Vessel C), Montreal to Fort William in ballast.

(a) Voyage time above Montreal:

Round trip Kingston to Fort William	227.2 hrs.
Less unload time at Kingston, 15.4 hrs.+5%	16.2 "
	<u>211.0 hrs.</u>
Add Round Trip Kingston to Montreal through Seaway (as per	
Exhibit 202) 44 hrs. + 5%	46.2 hrs.
Total time above Montreal	<u>257.2 hrs.</u>

(b) Charge for vessel time above Montreal $\frac{257.2 \times \$2,113}{24 \times 10,100} = \2.24 per ton

(c) Reservation: If crew inexperience in the restricted waters causes slower voyage, add 21c per ton to the charge for each day of delay ($\$2,113 \div 10,100$).

Example 2: Transshipment at Montreal from inland carrier F to ocean-going vessel, with F proceeding Montreal to Fort William in ballast:

(a) Vessel F's round trip time Montreal-Fort William:

Round trip from Kingston	255.8 hrs.
Add Kingston to Montreal, 44 hrs. + 5%	46.2 "
	<u>302.0 hrs.</u>

(b) Charge for Vessel F's time, including time unloading $\frac{302.0 \times \$3,079}{24 \times 17,100} = \2.27 per ton

(c) Add:

Montreal elevation charges¹ inward 0.9c bushel, outward 0.6c,
total $1.5c \times 37\frac{1}{3}$ bu. = 0.56 per ton
Ocean vessel loading time (including delay), say 16.2 hrs.
per 10,100 tons as for unloading at Kingston, $\frac{16.2 \times \$2,113}{24 \times 10,100} = 0.14$ per ton

(d) Total of above charges up to the time shipment leaves Montreal \$2.97 per ton

(e) Reservation: If congestion should be experienced at Montreal as now at Fort William-Port Arthur, add 18c per ton for each additional day Vessel F would be delayed in unloading and 21c per ton for each additional day the ocean vessel would be delayed in loading.

(f) Advantage of direct overseas shipment on the given assumptions is $\$2.97 - \$2.24 = 73c$ a ton or 2.0c a bushel.

¹National Harbours Board, By-law Montreal B-7, Tariff of Charges.

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The Economy of Two-way Cargoes

The economy can be measured in terms of the ship hours saved by the two-way movement of cargo as compared with independent movement. The round trip time Montreal-Fort William for Vessel F carrying wheat only was estimated in Example 2 above to be 302.0 hours. The round trip time with ore from Sept-Iles to Cleveland can be projected from the time to Hamilton, and likewise the voyage time for a combined ore and wheat movement. Cleveland is 161 statute miles farther than Hamilton from Sept-Iles, and the distance from Cleveland to Fort William-Port Arthur is 711 miles.²

Voyage Times for Vessel F:

(a) Round trip Sept-Iles to Cleveland, return in ballast:

Round trip Sept-Iles to Hamilton	180.5 hrs.
Add 161m. \times 2 at 14.4 m.p.h.	22.4 hrs.
Welland Canal delay	18.0 "
	40.4 hrs.
Add 5%	2.0 " 42.4 "
Total	<u>222.9 hrs.</u>

$$\text{Charge per ton} \quad \frac{222.9 \times \$3,152}{24 \times 17,100} = \quad \underline{\underline{\$1.71 \text{ per ton of ore}}}$$

(b) Round trip Sept-Iles to Fort William with ore and wheat:

Round trip to Cleveland, above	222.9 hrs.
Add Cleveland to Fort William:	
711m. \times 2 at 14.4 m.p.h.	98.8 hrs.
Additional delay	8.0 "
Load and unload wheat	72.0 "
	178.8 hrs.
Add 5%	8.9 hrs.
Additional time with wheat	187.7 hrs.
Total voyage time	<u>410.6 hrs.</u>

(c) Summary comparison:

Voyage time with wheat only, Example 2	302.0 hrs.
Voyage time with ore only, above	222.9 "
Total ship hours	524.9 hrs.
Voyage time with ore and wheat, above	410.6 "
Saving in ship hours (= 21.7%)	<u>114.3 hrs.</u>

Example 3: Transshipment at Montreal from vessel F to ocean-going vessel, vessel F having carried wheat in an extension of a voyage with ore:

- (a) Assume that Vessel F carries 17,100 tons of iron ore from Sept-Iles to Cleveland at a revenue of \$1.71 a ton (from (a) above) or \$29,241, proceeds to Fort William for a cargo of 17,100 tons of wheat to be transhipped to an ocean vessel at Montreal. Vessel F's voyage time would be 410.6 hours as per (b) above.

²Distances (in statute miles) from *Great Lakes Pilot*, 1955, U.S. Lake Survey, Corps of Engineers, U.S. Army, Detroit, Mich.

(b) Charges accruing against wheat:

Vessel F's total voyage charges	$\frac{410.6 \times \$3,116}{24}$	=	.....	\$53,310
Less assumed ore revenue	.....			\$29,241
Required charge to wheat movement	.....			<u>\$24,069</u>
The charge to the wheat movement for Vessel F's time	.....		
would therefore be	$\$24,069 \div 17,100$	=	.....	\$1.41 per ton
Add for elevation charges and ocean vessel loading time	.....		
(Example 2(c))	.....			0.70 " "
Total of these charges for wheat movement	.....			<u>\$2.11 per ton</u>

- (c) Advantage of transshipment on the given assumptions (cf. Example 1) is \$2.24—\$2.11 = 13c a ton or about 0.3c a bushel, subject to the reservation noted in Examples 1 and 2.

Example 4: Direct Overseas Shipment via Vessel C, the vessel having delivered a cargo of iron ore from Sept-Iles to Cleveland on the way to Fort William.

- (a) Assume that the vessel has discharged an inbound cargo at Montreal, proceeds to Sept-Iles to take on 10,100 tons of ore for Cleveland at a revenue of \$1.71 a ton (as in Example 3) or \$17,271, proceeds to Fort William for an overseas cargo of 10,100 tons of wheat.

(b) Voyage time from clearing Montreal to clearing Montreal:

Voyage time for wheat only, Example 1	.....			257.2 hrs.
Additional time to handle ore:	.....		
492m. ³ × 2 at 14.4 m.p.h.	.....			68.3 hrs.
Delays below Montreal	.....			6.0 "
Load and unload ore	.....			24.9 "
	.....			<u>99.2 hrs.</u>
Add 5%	.....			5.0 " 104.2 "
Total voyage time	.....			<u>361.4 hrs.</u>

(c) Voyage charge to be made against wheat:

Total voyage charges	$\frac{361.4 \times \$2,142}{24}$	=	.....	\$32,255
Less assumed ore revenue	.....			17,271
Required charge to wheat movement	.....			<u>\$14,984</u>
The charge for the wheat movement would therefore be	.....		
\$14,984 ÷ 10,100 =	.....			<u>\$1.48 per ton.</u>

- (d) Advantage of direct overseas shipments on the given assumption (cf. Example 3) is \$2.11—\$1.48 = 63c a ton or about 1.7c a bushel, subject to the reservations noted in Examples 1 and 2.

³In order to be comparable with previous examples, the distance from Montreal to Sept-Iles is taken as the difference between mileage of 854 for Hamilton to Sept-Iles (used in original Exhibit 200 and accepted in Appendix XIII) and mileage of 362 for Hamilton to Montreal given in *Great Lakes Pilot*, 1955. The distance is given as 503 statute miles in *Canadian Ports and Shipping Directory*, 12th edition, 1954, National Business Publications Ltd., Gardenvale, Que.

APPENDIX XVI

Ocean and Lake Freight Rates

Statistical Series for Figures 1 to 6 of Chapter VII

FIGURE 1—MONTHLY INDICES OF OCEAN FREIGHTS

(a) *Index Number of Shipping Freights, 1920 to 1937*

Source: Chamber of Shipping of the United Kingdom, Annual Reports,
Converted from 1920 base to 1935 base.

1935=100

	1920	1921	1922	1923	1924	1925	1926	1927	1928
Jan.	648.4	244.1	173.8	155.1	162.1	158.3	131.8	160.0	133.5
Feb.	727.4	200.2	177.0	152.4	166.4	151.7	121.1	164.4	129.1
March	743.3	197.6	175.3	154.8	169.4	137.5	115.2	160.9	131.7
April	669.5	208.0	163.2	169.8	163.9	133.2	119.2	149.9	130.7
May	637.8	207.6	171.4	162.2	158.7	127.9	120.1	154.0	126.4
June	590.4	224.8	157.2	151.2	153.3	124.7	125.0	141.9	129.2
July	500.8	226.7	146.5	145.5	144.5	116.3	140.5	131.6	129.8
Aug.	442.8	212.0	146.8	131.9	146.8	124.4	144.3	133.8	135.1
Sept.	442.8	181.4	142.3	139.3	149.0	122.7	173.1	141.8	136.0
Oct.	490.2	162.5	149.3	144.1	158.8	129.4	227.3	144.1	143.8
Nov.	421.7	154.8	157.7	143.9	154.4	137.4	245.0	146.3	153.8
Dec.	305.7	175.6	163.6	147.9	148.7	142.1	174.5	142.9	153.3
Year	527.1	198.2	156.7	149.6	156.2	133.3	147.5	146.5	135.9

	1929	1930	1931	1932	1933	1934	1935	1936	1937
Jan.	150.4	103.1	108.4	96.9	99.3	100.4	97.9	111.8	172.1
Feb.	148.9	99.9	101.9	101.9	97.8	100.2	90.8	103.6	171.6
March	139.5	95.7	103.7	107.7	93.5	96.3	93.3	110.0	173.4
April	137.2	102.4	104.9	107.1	91.0	93.3	95.7	105.8	181.4
May	134.6	90.2	108.6	102.5	91.9	94.3	94.5	109.1	190.0
June	127.1	96.4	96.6	90.1	95.4	90.8	93.6	108.4	179.0
July	129.7	95.0	96.7	87.9	95.8	97.5	97.9	109.1	180.6
Aug.	129.4	108.6	98.4	92.1	93.7	106.9	96.5	115.8	201.3
Sept.	131.6	106.7	97.3	100.5	87.2	109.0	98.8	128.0	225.8
Oct.	120.5	96.1	113.8	98.0	94.6	103.4	115.9	136.6	209.9
Nov.	120.9	106.4	115.1	100.7	99.4	103.2	110.7	137.4	178.9
Dec.	109.8	110.6	111.5	103.8	108.5	99.6	118.6	167.2	155.7
Year	131.1	100.7	104.8	98.9	95.6	99.4	100.0	119.0	*

*Series discontinued, replaced with the following one.

FIGURE 1—MONTHLY INDICES OF OCEAN FREIGHTS (*Con.*)*(b) Weighted Index Number of Tramp Shipping Freights 1937 to 1939*

Source: Chamber of Shipping of the United Kingdom.

1935=100

	1937	1938	1939
January	167.7	138.2	120.8
February	157.9	129.5	121.5
March	158.9	127.5	117.5
April	176.8	126.9	119.6
May	185.4	130.6	129.6
June	187.1	123.1	121.5
July	185.0	120.2	123.0
August	193.3	126.4	*
September	201.7	126.3	
October	190.0	127.6	
November	162.9	122.3	
December	141.0	124.1	
Year	175.6	126.9	

*Series discontinued on the outbreak of war.

(c) Weighted Index Number of Tramp Shipping Freights 1948 to 1953

Source: Chamber of Shipping of the United Kingdom.

1948=100

	1948	1949	1950	1951	1952	1953
Jan.	111.3	87.1	72.8	151.9	163.9	96.0
Feb.	104.5	100.5	75.5	164.7	157.3	92.3
March	105.5	95.0	75.8	180.6	137.7	96.2
April	102.7	94.6	74.4	176.8	109.4	100.9
May	104.6	99.7	71.4	203.8	110.9	97.4
June	99.8	86.7	74.3	179.0	99.1	95.3
July	99.4	73.3	78.8	179.6	90.2	*
Aug.	100.7	70.6	86.6	149.3	79.2	
Sept.	97.2	71.6	89.0	166.5	87.0	
Oct.	98.8	69.8	95.8	190.4	94.2	
Nov.	88.8	66.5	97.6	172.9	99.0	
Dec.	86.8	72.8	115.7	168.5	98.8	
Year	100.0	82.3	84.0	173.7	110.6	

*Series discontinued, replaced with separate series for time and voyage charters, the latter following.

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FIGURE 1—MONTHLY INDICES OF OCEAN FREIGHT (*Concl.*)

(d) *Index Number of Tramp Shipping Freights (Voyage Charter) 1952 to 1957*

Source: Chamber of Shipping of the United Kingdom.

1952=100

	1952	1953	1954	1955	1956	1957
Jan.	146.4	79.3	71.9	115.1	144.3	173.7
Feb.	140.6	80.0	77.6	119.8	140.2	167.6
March	122.4	83.2	77.4	113.7	147.2	145.5
April	108.4	85.6	75.8	110.2	151.6	134.3
May	105.8	82.2	77.4	122.6	162.2	116.6
June	91.2	73.8	77.6	128.0	155.5	109.9
July	73.5	75.8	79.7	130.0	155.2	101.9
Aug.	71.2	73.9	80.1	129.9	157.9	
Sept.	76.3	73.9	90.6	138.1	156.1	
Oct.	84.9	77.5	99.5	148.9	153.6	
Nov.	88.0	73.8	110.4	135.5	171.4	
Dec.	83.7	71.5	115.5	140.1	189.4	
Year	100.0	77.5	86.1	127.7	157.0	

FIGURE 2—TIME CHARTER INDEX 1947 TO 1957

Source: Norwegian Shipping News

July to December 1947=100

	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Jan.	103.8	103.8	82.9	65.6	147.1	224.2	63.0	64.6	125.0	160.8	249.0
Feb.	103.8	103.2	93.0	64.5	160.0	222.0	70.6	69.3	130.6	161.6	227.0
March	105.3	103.8	93.8	63.3	192.5	150.1	74.0	72.3	130.4	168.0	190.0
April	102.2	97.8	93.9	64.3	206.0	129.7	76.3	71.5	111.6	187.6	187.6
May	105.9	97.3	90.2	64.7	216.0	124.0	72.7	70.9	141.1	201.3	163.6
June	102.7	99.4	85.7	64.2	238.0	106.8	71.8	74.6	140.0	189.1	129.2
July	101.5	97.3	75.4	66.9	214.0	94.8	65.0	67.6	143.6	193.8	
Aug.	100.5	95.2	68.0	78.3	208.0	67.4	69.0	76.8	143.5	192.1	
Sept.	102.2	91.3	65.6	84.9	228.0	66.0	62.7	80.2	154.0	208.0	
Oct.	100.2	89.7	68.3	87.6	231.0	69.3	65.0	88.3	160.5	210.8	
Nov.	100.5	88.1	64.3	91.4	249.5	68.9	64.7	107.2	146.4	234.0	
Dec.	95.1	88.6	63.4	117.5	238.0	60.4	65.7	116.3	154.1	255.0	
Year	102.1	96.2	78.7	78.6	210.7	115.3	68.4	80.0	140.1	196.8	

FIGURE 3—RATES FOR HEAVY GRAIN, LINER PARCELS, MONTREAL TO LONDON, 1949 TO 1957

Rates in Shillings per ton of 2,240 pounds
Lows and Highs by Months

Source: Data made available from private records. Original data in shillings and pence per quarter of 480 pounds to July 1953, per ton of 2,240 pounds thereafter.

	1949		1950		1951		1952		1953		1954		1955		1956		1957	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Jan.	51.3		37.3		67.7		116.7		51.3		47.0		51.0	70.0	80.0		90.0	100.0
Feb.	51.3		37.3		93.3		116.7		51.3		47.0		67.5	70.0	80.0	90.0	90.0	112.5
March	51.3		37.3		93.3		116.7		51.3		47.0		70.0	78.0	87.5	92.5	90.0	125.0
April	51.3		37.3		105.0		79.3		51.3		47.0		65.0	78.0	82.5	92.5	85.0	110.0
May	49.0		37.3		105.0		79.3		51.3		45.0	47.0	65.0	75.0	82.5	87.0	55.0	100.0
June	49.0		38.5		105.0		68.8		51.3		45.0		65.0	72.5	82.5	92.5	55.0	100.0
July	45.5		37.3		105.0		68.8		51.3		45.0	47.0	65.0	75.0	80.0	90.0	43.0	62.5
Aug.	40.8		37.3		105.0		49.0		42.0		45.0	47.0	70.0	80.0	80.0	85.0	42.5	60.0
Sept.	35.0		39.7		105.0		37.3	49.0	42.0		45.0	47.0	77.5		80.0	90.0		
Oct.	35.0		39.7		105.0		39.7		47.0		45.0	47.0	77.5		90.0	92.0		
Nov.	37.3		40.8		105.0		44.3		47.0		47.0	50.0	77.5		90.0	95.0		
Dec.	37.3		46.7		116.7		51.3		47.0		47.0	72.0	77.5	82.5	90.0	100.0		
Year	35.0	51.3	37.3	46.7	67.7	116.7	37.3	116.7	42.0	51.3	45.0	72.0	51.0	82.5	80.0	100.0		

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FIGURE 4—WHEAT: LAKE FREIGHT RATES FROM FORT WILLAM-PORT ARTHUR TO MONTREAL DIRECT, 1946 TO 1957

Source: Board of Grain Commissioners for Canada, Statistics Branch.

(a) Maximum Rates

Period ¹	Cents per Bushel
1946 — season	8 c
1947 — season	10
1948 — April to September	11
— October to November	12½
1949 — season	12½
1950 — season	12½
1951 — season	16
1952 — season	16
1953 — season	16
1954 — season	16
1955 — season	16
1956 — season	16
1957 — season as shown below	16

¹For tonnage loaded in December the maximum rate is increased by 2c per bushel.

(b) Weighted Average Rates by Months in cents per bushel

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Jan.	—	—	—	—	—	—	—	—	—	—	—	—
Feb.	—	—	—	—	—	—	—	—	—	—	—	—
March	—	—	—	—	—	—	—	—	—	—	—	—
April	8.0	10.0	11.0	12.5	12.5	16.0	16.0	16.0	16.0	13.5	16.0	16.0
May	8.0	10.0	11.0	12.5	12.5	16.0	16.0	16.0	14.79	13.5	16.0	16.0
June	8.0	10.0	11.0	12.5	12.5	16.0	16.0	16.0	14.5	13.5	16.0	16.0
July	8.0	10.0	11.0	12.5	12.5	16.0	16.0	16.0	14.5	13.5	16.0	16.0
Aug.	8.0	10.0	11.0	12.5	12.5	16.0	16.0	16.0	14.06	13.5	16.0	16.0
Sept.	8.0	10.0	—	12.5	12.5	16.0	16.0	16.0	13.5	13.5	16.0	—
Oct.	8.0	10.0	12.5	12.5	12.5	16.0	16.0	16.0	13.5	13.5	16.0	—
Nov.	8.0	10.0	12.5	12.5	12.5	16.0	16.0	16.0	13.5	13.5	16.0	—
Dec.	—	—	—	—	—	—	—	—	—	—	17.0	—

FIGURE 5—OATS: LAKE FREIGHT RATES FROM FORT WILLIAM-PORT ARTHUR TO MONTREAL DIRECT, 1946 TO 1957

Source: Board of Grain Commissioners for Canada, Statistics Branch.

(a) *Maximum Rates*

Period ¹	Cents per Bushel
1946	²
1947	²
1948 — April to September	9½c
— October to November	11
1949 — season	11
1950 — season	11
1951 — season	14
1952 — season	14
1953 — season	14
1954 — season	14
1955 — season	14
1956 — season	14
1957 — season as shown below	14

¹For tonnage loaded in December the maximum rate is increased by 2c per bushel.

²No maximum.

(b) *Weighted Average Rates by Months* in cents per bushel

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Jan.	—	—	—	—	—	—	—	—	—	—	—	—
Feb.	—	—	—	—	—	—	—	—	—	—	—	—
March	—	—	—	—	—	—	—	—	—	—	—	—
April	6.25	8.0	9.5	—	9.93	12.5	12.5	12.5	12.5	11.5	13.0	13.0
May	6.25	8.0	8.95	10.0	9.93	—	12.63	12.5	12.21	11.5	13.0	13.0
June	—	8.0	—	9.5	10.21	12.5	12.5	12.5	12.0	11.36	13.0	13.0
July	6.25	8.0	9.0	9.5	9.5	—	12.5	12.5	12.0	11.5	13.0	13.0
Aug.	6.25	8.0	—	9.5	9.5	12.5	12.5	12.5	11.95	11.39	13.0	13.0
Sept.	6.25	8.0	—	9.62	10.0	12.5	—	12.67	11.18	11.0	13.0	—
Oct.	6.25	8.0	11.0	9.5	9.79	12.5	12.5	12.5	11.0	11.07	13.0	—
Nov.	—	8.0	11.0	10.04	9.5	—	12.99	12.5	11.0	11.27	—	—
Dec.	—	—	—	—	—	—	—	—	—	—	—	—

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FIGURE 6—BARLEY: LAKE FREIGHT RATES FROM FORT WILLIAM-PORT ARTHUR TO MONTREAL DIRECT, 1946 TO 1957

Source: Board of Grain Commissioners for Canada, Statistics Branch.

(a) Maximum Rates

Period ¹	Cents per Bushel
1946	²
1947	²
1948 — April to September	10¼c
— October to November	11¾
1949 — season	11¾
1950 — season	11¾
1951 — season	15¼
1952 — season	15¼
1953 — season	15¼
1954 — season	15¼
1955 — season	15¼
1956 — season	15¼
1957 — season as shown below	15¼

¹For tonnage loaded in December the maximum rate is increased by 2c per bushel.

²No maximum.

(b) Weighted Average Rates by Months in cents per bushel

	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
Jan.	—	—	—	—	—	—	—	—	—	—	—	—
Feb.	—	—	—	—	—	—	—	—	—	—	—	—
March	—	—	—	—	—	—	—	—	—	—	—	—
April	7.75	9.5	10.25	11.75	11.75	15.25	15.25	15.25	15.25	12.75	15.25	15.25
May	7.75	9.5	10.25	11.75	11.75	15.25	15.25	15.25	14.07	12.75	14.02	15.25
June	—	9.5	10.25	11.75	11.75	15.25	15.25	15.25	13.75	12.75	15.25	15.25
July	7.75	9.5	10.25	11.75	11.75	15.25	15.25	15.25	13.75	12.75	15.25	15.25
Aug.	7.75	9.5	10.25	11.75	11.75	15.25	15.25	15.25	13.51	12.75	15.25	15.25
Sept.	7.75	9.5	10.25	11.75	—	15.25	15.25	15.25	12.75	12.75	15.25	—
Oct.	7.75	9.5	11.75	11.75	11.75	15.25	15.25	15.25	12.75	12.75	15.25	—
Nov.	7.75	9.5	11.75	—	11.75	15.25	15.25	15.25	12.75	12.75	15.25	—
Dec.	—	—	—	—	—	—	—	—	—	—	—	—

APPENDIX XVII

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